REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE FOR THE

GOVERNMENT ICT CONNECTIVITY INFRASTRUCTURE PROJECT IN COSTA RICA

Submission Deadline: **4:00 PM**

LOCAL TIME (SAN JOSE, COSTA RICA)

FEBRUARY 10, 2011

Submission Place:

Alicia Avendaño
Secretaría Técnica de Gobierno Digital
Altos del Supermercado Mas x Menos
Antiguo Yahoan frente al Hotel Corobici Crowne Plaza
Sabana – San José
Costa Rica
Phone: + (506) 2256-1550

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

Section 1: INTRODUCTION

The U.S. Trade and Development Agency ("USTDA") has provided a grant in the amount of US$438,000 to the Secretaría Técnica de Gobierno Digital ("STGD") (the "Grantee") of Costa Rica (the "Host Country") in accordance with a grant agreement dated August 31, 2010 (the "Grant Agreement") to fund technical assistance ("Technical Assistance") for the Government ICT Connectivity Infrastructure Project (the "Project"). This Technical Assistance will provide STGD with a roadmap and guidelines to support the implementation of a government-wide backbone network and a shared data center for the Government of Costa Rica ("GOCR"). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

STGD is part of the Office of the President of Costa Rica and was established by presidential decree in May 2006. STGD's mission is to foster the use of digital technologies in Costa Rica to deliver efficient and high-quality service to its citizens and businesses by making government operations more flexible, responsive, and transparent. The adoption of e-government services will also promote the overall productivity and competitiveness of Costa Rica. STGD is responsible for coordinating the e-government strategies and initiatives being developed by the GOCR. STGD is currently implementing the GOCR's Digital Government Action Plan. One of the highest priority projects in the Digital Government Action Plan is the Government ICT Connectivity Infrastructure Project that will connect GOCR agencies and will provide ICT infrastructure for other e-government projects.

The objective of the Project is to create a common ICT connectivity infrastructure that will enable the development of a national e-government architecture. The infrastructure will allow GOCR entities to share resources, exchange information, implement coordinated processes and activities, offer new services, handle casework on-line, promote e-commerce, and facilitate citizen access to the corresponding information and services. The foundation of the Project is comprised of two key components:

- An government-wide backbone network that would link the participating GOCR entities, and
- A state-of-the-art shared data center to act as a primary data hosting facility for GOCR entities that currently lack such a facility and as a backup and disaster recovery center for those entities that currently have data hosting facilities. The shared data center could also house ICT equipment and act as a network operations center.

A background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of this Technical Assistance is to provide a roadmap and guidelines to support the implementation of a government-wide backbone network and a shared data center for the Government of Costa Rica.

The Terms of Reference ("TOR") for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals ("RFP") will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US$438,000. **The USTDA grant of US$438,000 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted**. Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US$438,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The Project is called the "Government ICT Connectivity Infrastructure Project."

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental, and other aspects of the proposed Project. A copy of the report is attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries, and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Technical Assistance.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US$438,000.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection, or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees, or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English and Spanish.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The Cover Letter in the proposal must be addressed to:

Alicia Avendaño
Secretaría Técnica de Gobierno Digital
Altos del Supermercado Mas x Menos
Antiguo Yahoan frente al Hotel Corobici Crowne Plaza
Sabana – San José
Costa Rica

An original in English, an original in Spanish, one (1) copy in English, and three (3) copies in Spanish of your proposal must be received at the above address no later than 4:00 PM, on February 10, 2011.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

Each original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original in English, the original in Spanish, one (1) copy in English, and three (3) copies in Spanish should be collectively wrapped and sealed, and clearly labeled.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed, and labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for ninety (90) days after the proposal due date, and the Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, technical assistance, feasibility study, and/or other services similar to those required in the TOR, as applicable.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.21 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space, and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision, and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions, and conditions of this RFP and the resultant contract, execute, and complete the TOR to the satisfaction of the Grantee and USTDA.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US$438,000 which is a fixed amount.

Offerors shall submit one (1) original in English, one (1) original in Spanish, one (1) copy in English, and three (3) copies in Spanish of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Executive Summary,
Company Information,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan, and
Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Technical Assistance.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Technical Assistance as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Technical Assistance. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____.

2. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee. USTDA retains the right to request an updated certificate of good standing from the selected Offeror.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Technical Assistance.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed Project Manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Technical Assistance.

3.5 SECTION 5: EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Technical Assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second-most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria and their corresponding assigned weights:

1. Experience and skills of proposed personnel in the following areas (40%):
   - Fiber-optic and broadband wide-area network technologies and standards
   - Broadband network analysis, design, engineering, implementation, and operation
   - Data center planning, design, and operation, as well as applicable business models
   - Telecom/ICT end-user surveying and research methods
   - Needs assessment, requirements definition, and development of functional specifications
   - Systems integration
   - Large-scale ICT system procurement
   - Legal and regulatory issues impacting the telecom/ICT sector

2. Proposed Technical Approach and Work Plan (30%)

3. Experience with similar international projects and cross-cultural skills, including experience and ability to work in the Spanish language (30%)

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in Contractor selection.

ANNEX 1

FEDBIZOPPS ANNOUNCEMENT

Alicia Avendaño, Secretaría Técnica de Gobierno Digital, Altos del Supermercado Mas x Menos, Antiguo Yahoan frente al Hotel Corobici Crowne Plaza, Sabana, San José, Costa Rica, Phone + (506) 2256-1550

B – Costa Rica: Government ICT Connectivity Infrastructure Project Technical Assistance

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Government ICT Connectivity Infrastructure Project Technical Assistance, Costa Rica.

The Grantee (Secretaría Técnica de Gobierno Digital, "STGD") invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to conduct Technical Assistance for the Government ICT Connectivity Infrastructure Project.

The objective of the Government ICT Connectivity Infrastructure Project is to create a common ICT connectivity infrastructure that will enable the development of a national e-government architecture with a government-wide backbone network and a shared data center for the Government of Costa Rica ("GOCR"). The infrastructure will allow GOCR entities to share resources, exchange information, implement coordinated processes and activities, offer new services, handle casework on-line, promote e-commerce, and facilitate citizen access to the corresponding information and services.

The Terms of Reference (TOR) for the Technical Assistance include the following tasks: 1) Preliminary Information Request and Background Research; 2) Survey of Current Situation: Institutional End-Users; 3) Survey of Current Situation: Grupo ICE; 4) Analysis of Baseline Data; 5) High-Level Design, Architecture, and Functional Specifications; 6) Legal and Regulatory Review; 7) Economic and Financial Analysis; 8) Project Preparation and Structuring; 9) Environmental Impact Assessment; 10) Developmental Impact Assessment; and 11) Final Report.

The U.S. firm selected will be paid in U.S. dollars from a $438,000 grant to the Grantee from the U.S. Trade and Development Agency ("USTDA").

A detailed Request for Proposals ("RFP"), which includes requirements for the Proposal, the Terms of Reference, and a background desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

https://www.ustda.gov/businessopps/rfpform.asp.

Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S.

mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English and Spanish directly to the Grantee by 4:00 PM (local time in San José, Costa Rica), February 10, 2011, at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

BACKGROUND DEFINITIONAL MISSION REPORT

PUBLIC VERSION

FINAL REPORT
DEFINITIONAL MISSION: INFORMATION AND COMMUNICATION TECHNOLOGIES AND TELECOMMUNICATIONS PROJECTS IN COSTA RICA

USTDA CO2009510009

Submitted by

Martin Morell
200 Pinehurst Avenue, Suite 3G
New York, NY 10033
(212) 928-1947 (phone and fax)
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April 12, 2010

This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 • **Fax:** 703-875-4009 • **Web site:** www.ustda.gov • **Email:** info@ustda.gov

The U.S. Trade and Development Agency

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits and business workshops that support the development of a modern infrastructure and a fair and open trading environment.

USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment and sustainable economic development. Operating at the nexus of foreign policy and commerce, USTDA is uniquely positioned to work with U.S. firms and host countries in achieving the agency's trade and development goals. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
Phone: 703-875-4357 • **Fax:** 703-875-4009 • **Web site:** www.ustda.gov • **Email:** info@ustda.gov

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I. GENERAL INTRODUCTION

1. BACKGROUND ON THE DEFINITIONAL MISSION

The present DM sought to identify opportunities for greater U.S. involvement in the ICT sector in Costa Rica. The general objectives of the DM were as follows:

- To conduct in-depth research into the Costa Rican ICT sector, with the aim of identifying specific project opportunities, as well as developing relevant and current information on activities in the sector, principal actors and stakeholders, interested U.S.-based parties, and other resources to support the subsequent DM in-country activities;
- To assess and define ICT sector projects (feasibility studies, technical assistance or trade capacity building activities) which are regarded as viable options for USTDA consideration, which will both benefit the host country (e.g., through deployment of new and/or more cost-effective infrastructure, technologies and services; ICT sector resource capacity-building; strengthening of sector regulation and oversight, promotion of public-private partnerships in ICT), and offer potential for increased U.S. exports of ICT-related goods and services.

Furthermore, USTDA had identified two specific requests for funding to be followed up and assessed in the course of the DM. The requests in question were:

- **Government Intranet Technical Assistance:** The Secretaría Técnica de Gobierno Digital ("STGD") is responsible for coordinating the e-government strategies and initiatives being developed by the Government of Costa Rica ("GOCR"). STGD is coordinating and implementing the GOCR's 2008–2010 Digital Government Action Plan. One of the highest priority projects in the Action Plan is the estimated $40 million Government Intranet Project that would connect GOCR agencies and provide the ICT infrastructure for other e-government projects. STGD is requesting USTDA-funded technical assistance to support its implementation.
- **Telecommunications Regulatory Technical Assistance:** The Superintendencia de Telecomunicaciones ("SUTEL") is the GOCR's independent telecommunications sector regulatory commission. SUTEL is requesting USTDA-funded technical assistance to support the development of several telecommunications regulatory initiatives it intends to undertake to foster new market entrants and the use of new ICT. The Contractor shall evaluate priority telecommunications regulatory projects that may benefit from USTDA assistance. The proposed technical assistance would build on the discussions that took place at the USTDA-sponsored CAFTA-DR Telecommunications Regulatory Workshop (USTDA Activity No. 2008-51037A) that was held in Guatemala City in November 2008.

The DM Contractor traveled to Costa Rica for a period of seven business days (13–22 October 2009) and conducted interviews with a wide range of public- and private-sector entities. Additionally, the DM Contractor liaised with the Commercial and Economic Sections of the U.S. Embassy in San José. An overview of the meetings held is contained in Section IV of this Report. As a result of these activities, one project opportunity was identified which, in the opinion of the DM Contractor, can be recommended for USTDA funding support. The opportunity in question is

the "Government Intranet" project on behalf of the STGD, described briefly in the first bullet above. (Sections II and III of this Report contain a full description, as well as the proposed Terms of Reference and budget for the proposed assistance.)

The next section provides background on Costa Rica and the ICT/telecom sector of the country.

2. COUNTRY OVERVIEW

Costa Rica enjoys a relatively high standard of living and a stable economy. According to a recent United Nations *Human Development Report*, Costa Rica has the highest level of human development in Central America and the fourth highest in Latin America. Further-more, Costa Rica's poverty rate has declined in recent years, and currently stands at just 16.7%

Costa Rica: Key Macro Indicators	
Population (est. July 2009)	4,250,000
GDP per Capita (est. 2008)	US$7,150
GDP per Capita at PPP (est. 2009)	US$11,600
Poverty Rate (UN est. 2008)	16.7%
Unemployment Rate (official, est. 2008)	5.6%

The traditionally agriculturally-oriented economy has expanded to include strong technology and tourism industries. Exports have become more diversified in the past ten years as a result of growth of high-tech manufacturing, dominated by the microprocessor and medical-device industries. Costa Rica has attracted one of the highest levels of Foreign Direct Investment per capita in Latin America. Foreign investors remain attracted by the country's political stability and relatively high education levels, as well as the fiscal incentives offered in its free-trade zones. Tourism, with an increasing emphasis on ecotourism, is also a significant generator of foreign exchange. Under the current Arias administration, the government has made strides in reducing internal and external debt. The Central Bank is moving towards a more flexible exchange rate system to focus on taming inflation by 2010.

With a GDP of some $30 billion, Costa Rica is a key player in an important and strategic export market for the U.S. The U.S. is Costa Rica's largest trading partner; furthermore, total U.S. exports to Costa Rica have risen sharply over the last several years, from US$3.3 billion in 2004 to around US$5.7 billion in 2008. Annual exports of telecommunications equipment have averaged around US$100 million over the same period, and can be expected to rise with the implementation of the CAFTA-DR agreements (see below). Indeed, experience to date with other CAFTA-DR countries indicates that U.S. exports have increased an average of 25% since the agreements were implemented. Furthermore, the rapid opening of the Costa Rican telecom market to competition, now in process, is expected to substantially expand the Costa Rican market for telecom- and ICT-related systems, hardware and software.

3. ICT AND TELECOM SECTORS

ICT. The ICT sector in Costa Rica benefits from and builds on the country's relative stability, prosperity, well-educated population and receptiveness to outside investment. The private sector is said to comprise over 500 ICT-related businesses, of which some 300 are engaged in software development. Estimates of sector employment vary; according to the country's principal ICT professional organization, the Cámara de Tecnologías de la Información y Comunicación (ICT Chamber, CAMTIC) the figure is around 15,000 (exclusive of telecommunications). Additionally, two major institutions of higher learning, the Universidad de Costa Rica and the Instituto Tecnológico de Costa Rica, have been increasingly active in establishing the educational framework to support continuing ICT development.

Costa Rica: Key ICT/Telecom Indicators	
Fixed-line penetration (Jan. 2009)	1,400,000 (32%)
Mobile penetration (Jan. 2009)	1,710,000 (40%)
Internet users (est. 2008)	1,200,000 (28%)
Broadband Internet connections (2009)	240,000 (7%)
Number of Internet hosts (2008)	16,440
Number of ICT-Related Businesses (2008)	> 500
ICT/Telecom Turnover as % of GDP (2007)	8.1%

On a general level, Costa Rica scores high on measures of ICT readiness – on a par with Brazil and Colombia, though well behind Chile. Levels of Internet awareness and usage are relatively high, although reportedly there are marked disparities between the situation in the capital city San José and the rest of the country, on the one hand; and between the under-20 and over-20 segments of the population, on the other. At the same time, broadband Internet access currently accounts for only 240,000 connections, representing a very modest 6% penetration; also, many connections classified as "broadband" offer limited performance.[1] In a 2008 interview, CAMTIC vice-president Ronald Jiménez was quoted as saying that the ICT industry's competitiveness is being increasingly jeopardized by the general lack of affordable, high-performance Internet access services.

In the public sector, there is a high degree of awareness in the GOCR, from the Presidency downward, of the critical importance of ICT in improving the efficiency and quality of government services, increasing the productivity of public- and private-sector enterprises, and enhancing the quality of life of the citizenry. A variety of public-sector institutions and organizations, described in greater detail below, are engaged in related activities. However, progress in public-sector ICT deployment has not been without problems. It is reported that, although large numbers of initiatives and projects have been undertaken, coordination among the numerous actors and stakeholders is sometimes poor, so that some projects have been implemented only in part, or abandoned altogether. Also, levels of ICT readiness and usage are said to be very unevenly distributed across public-sector institutions.

Telecommunications. Basic fixed-line infrastructure in Costa Rica is among the more advanced in Central America. Fixed-line teledensity, at over 30%, is the highest in Latin America, a figure exceeded only by some of the more prosperous Caribbean islands. Additionally, good international

[1] About 50% of the connections are rated at 256 and 128 kilobits/sec; according to a commonly accepted definition, broadband refers to throughputs of 384 kilobits/sec and higher.

connectivity is available via the Maya-1, Arcos-1 and Columbus submarine cable systems. On the other hand, ambitious plans to deploy a national fiber-optic-based infrastructure, primarily to support broadband Internet, have been repeatedly delayed. Furthermore, in contrast to virtually all other countries in the region, where mobile telephony is by far the most widespread, fastest-growing and most profitable communications technology, in Costa Rica the mobile sector has notably lagged. Mobile teledensity is only slightly higher than its fixed-line counterpart – about 40%, on a par with much poorer and less developed neighbors such as Honduras and Nicaragua. Remarkably, furthermore, Costa Rica has yet to deploy advanced third-generation (3G) mobile technology.

The primary reason for this situation is to be sought in the fact that Costa Rica has been one of the Latin American region's last bastions of a state-owned telecommunications monopoly regime. The state-owned Instituto Costarricense de Electricidad (ICE) and its data/Internet subsidiary Radiográfica Costarricense (RACSA)[2] have long been the monopoly providers of virtually all telecom services in Costa Rica except for cable TV. And although ICE must be credited with some success in deploying basic fixed-line telephony, its provision of both mobile telephony and advanced data and Internet services has proved to be costly and inefficient relative to the needs of the dynamically changing sector.

This situation changed abruptly in May 2008, when the National Assembly approved a new *Ley General de Telecomunicaciones* (General Telecommunications Law, LGT; also known as Ley 8842) which ended ICE's 50-year monopoly.[3] The resultant sector liberalization is expected to yield major economic benefits; the Ministerio del Ambiente, Energía y Telecomunicaciones (Ministry of Environment, Energy and Telecommunications, MINAET) estimates that more than 15,000 jobs will be added to the sector over the next five years. The opening of the telecom sector to competition has triggered a veritable "big bang" of activity as both foreign and domestic companies rush to position themselves. The sector regulatory agency SUTEL has already issued several new licenses (see below for more details), and some of the new entrants report that they are starting up operations.

4. POLICY, LEGAL AND REGULATORY FRAMEWORK

Some major milestones of Costa Rican ICT-related legislation and strategy should be mentioned here. In May 2006, President Arias issued Decree 33147, known as the *Decreto de Creación de la Comisión Intersectorial de Gobierno Digital* (Decree on Creation of the Intersectoral Committee on e-Government), which declared the development of e-government to be a matter of national interest, and established the Comisión Intersectorial de Gobierno Digital (Intersectoral Commission on e-Government) as the e-government policy-making entity. The same decree also established the Secretaría Técnica de Gobierno Digital (Technical Secretariat for e-Government, STGD) as the

[2] ICE, RACSA, the Compañía Nacional de Fuerza y Luz (National Power and Light Company, CNFL) and other affiliated organizations (including the Secretaría Técnica de Gobierno Digital (Technical Secretariat for e-Government, STGD) are collectively referred to as Grupo ICE.

[3] It should be added that the impetus for adoption of the LGT was the CAFTA-DR Free Trade Agreement, which was approved by national referendum in October 2007. Under CAFTA-DR, liberalization of the telecom sector was a condition for Costa Rica's membership.

executing agency, responsible for improving efficiency and transparency in the public sector through strategic use of digital technologies, specifically for the purpose of empowering the citizenry vis-à-vis the services provided by the state.

In the telecom area, the LGT, already referred to above, set out broad objectives for the development of the sector, including the following:

- Guarantee regulated development of telecommunications in a convergent environment
- Promote effective competition in those market segments open to competition
- Promote development of a national Information and Knowledge-Based Society through the use of telecommunications
- Strengthen the oversight and regulatory functions of the state
- Administer scarce resources in an efficient manner
- Increase investment in the sector
- Guarantee the development and delivery of telecommunications services
- Strengthen and guarantee universality in a convergent environment
- Guarantee end-user rights
- Guarantee privacy and confidentiality of communications

More specifically, the LGT authorized both domestic and foreign companies to compete in the areas of mobile and IP-based telephony and Internet access (although not in traditional fixed-line telephony, which effectively remains in ICE's hands). The LGT also created a new regulatory body, the Superintendencia de Telecomunicaciones (SUTEL), affiliated with, but functionally independent from, the pre-existing multi-sector regulatory entity Autoridad Reguladora de los Servicios Públicos (Public Service Regulatory Authority, ARESEP). More information on SUTEL and ARESEP is provided below (pp. 9–10).

The LGT is generally regarded as a well-crafted, up-to-date and comprehensive piece of legislation that conforms broadly to both the CAFTA-DR requirements and world practice. At the same time, much of the supporting secondary legislation and regulation has yet to be put in place, so that considerable work remains to be done to make the law's provisions concrete and effective.

A related law, the *Ley de Fortalecimiento del ICE* (Law of Strengthening of ICE, also known as Law 8860), was adopted in 2008, at about the same time as the LGT, ostensibly for the purpose of giving ICE the tools and wherewithal to compete in the newly liberalized telecom marketplace. For example, Law 8860 provides for an easing of restrictions on ICE's level of indebtedness and ability to invest in infrastructure. At the same time, certain provisions of Law 8860 and its associated Regulation have had the effect of entrenching ICE's position as a service provider to the public sector; thus, Article 1 of the Regulation states:

> ICE, or a company from its Group which it designates, shall be the Costa Rican state entity charged exclusively with the development of e-government projects [proyectos de Gobierno Digital]. To this end, it shall consider the guidelines issued by the Inter-Sectoral Commission on e-Government, and shall coordinate with the Secretaría Técnica de Gobierno Digital [STGD]. Public-sector entities or agencies shall suspend investments aimed at developing e-government projects, and shall be enabled to

execute the necessary acts, agreements and contracts with ICE, or the company which it designates, in order to benefit from the services provided in conjunction with e-government projects.

Other laws relevant to the ICT sector are briefly described below.

- *Ley de Protección al Ciudadano del Exceso de Requisitos y Trámites Administrativos* (Law Protecting the Citizenry from Excessive Administrative Requirements and Proceedings, also known as Ley 8220), dating to 2002. This law, which is binding on the entire public sector, in effect mandates that citizens' interactions with government bodies are to be handled as expeditiously, responsively and transparently as possible. In particular, the law requires government bodies to establish timeframes and deadlines for citizens' casework, and to provide information on the progress of such casework, without imposing an obligation, to the extent permitted by law, of a personal appearance on the part of the affected citizen. While the law does not explicitly mandate the creation of an e-government framework and infrastructure, its overall thrust is such as to create considerable incentives for government bodies to do so.
- *Ley de Firma Digital y Certificados Digitales* (Law on Digital Signature and Digital Certificates), adopted in 2005. Essentially, this is a standard law, fundamental to all forms of e-commerce, which provides that digital signatures based upon and produced by a recognized signature security certification process have the same judicial validity as a handwritten signature.
- *Proyecto de Ley de Protección de la Persona Frente al Tratamiento de sus Datos Personales* (Draft Law of Protection of Persons in Regard to Handling of Their Personal Data, also known as Draft Law 16.679). Costa Rica does not yet have a Personal Data Privacy Law, although it appears that some form of this Draft Law will soon be adopted. Article 10 of the Draft Law provides that personal data stored in archives and databases, in the public and the private sectors, can be accessed by third parties only for purposes directly related to the legitimate functions of the data holder and data recipient, and with prior consent of the affected party. However, the current version of the Draft Law has been criticized in the press for lacking sufficient penalties for infractions.

5. KEY SECTOR INSTITUTIONS AND ORGANIZATIONS

Some key sector institutions and organizations are briefly enumerated below.

Ministerio de Planificación Nacional (Ministry of National Planning, MIDEPLAN)

MIDEPLAN provides consultancy and technical input to the Office of the Presidency in support of decision-making on the part of the Presidency and the Executive Branch in general. It is tasked with conducting studies and technical analyses required to formulate, coordinate, track and evaluate the priorities and strategies of the GOCR across a wide range of sectors and issues of national interest.

Under the general rubric of "Governmental Coordination," and as part of the more general effort to make public-administration processes simpler and more responsive, MIDEPLAN is engaged in activities related to the area of e-government. In particular, MIDEPLAN's responsibilities extend to oversight of efforts to improve technical and administrative support for public-sector institutions through implementation of e-government in public-sector services. In this capacity, MIDEPLAN coordinates directly with the STGD (see the next section) as the responsible executing agency.

Secretaría Técnica de Gobierno Digital (Technical Secretariat for e-Government, STGD)

The STGD was established by presidential decree in May 2006 and became operational in October of that year. The current director is Alicia Avendaño. The mission of the STGD is to make creative use of digital technologies to deliver efficient, high-quality e-services to business and the citizenry, and, in so doing, to make public administration more flexible, responsive and transparent, to improve the relationship between government and the population, and to promote the over-all productivity and competitiveness of the country. The STGD claims to be currently engaged with, or to have links to, a total of 57 GOCR institutions.

The STGD's specific objectives include the following:

- Raise the level of ICT-based knowledge, practice and governance in public-sector institutions
- Improve and ensure key government processes and services
- Promote interoperability of institutional processes
- Significantly raise the level of connectivity within the GOCR
- Improve significantly access to, and knowledge of, technology on the part of the citizenry
- Establish mechanisms and procedures for internal administration of the STGD that have a positive impact on GOCR institutions and personnel

Initially the STGD was under the jurisdiction of the Presidency, but was subsequently transferred to the Ministry of Justice. Currently the STGD is in the somewhat peculiar position of being an arm of Grupo ICE, which includes the dominant telecom operator ICE and its subsidiary RACSA,[4] while simultaneously being under the jurisdiction of MIDEPLAN.

The STGD is also responsible for developing, socializing and implementing the *Plan de Acción: Gobierno Digital 2008–2010* (e-Government Action Plan 2008–2010, henceforth the "Action Plan"), published in January 2008. The Action Plan describes and prioritizes a large number of short-, medium- and long-term projects, ranging from complex, multi-disciplinary undertakings with multimillion-dollar budgets to limited, specific initiatives. Three major projects are given the highest priority; these are characterized briefly below:

1. GOCR Connectivity Infrastructure ("Government Intranet Project") (Infraestructura de Conectividad del Estado Costarricense, ICEC)

- *Brief description:* The objective is to create an underlying technological infrastructure that will enable the development of an e-government architecture. The infrastructure should allow public-sector entities to share resources, exchange information, implement joint processes and activities, offer services and handle casework on-line, promote e-commerce and facilitate access of all citizens to the corresponding information and services.
- *Participants:* All government agencies
- *Duration:* 36 months
- *Estimated economic benefit:* US$100 million per year (0.5% of GDP)

[4] See footnote 3 above.

- *Estimated project cost:* US$40 million

2. GOCR Electronic Public Procurement (EPP) Project (Sistema Electrónico de Compras del Estado Costarricense, CostaricaCompr@s)

- *Brief description:* The project will implement a new, ICT-enabled model of electronic public procurement (EPP) for the GOCR. The resultant EPP system will be transparent and ubiquitously accessible, so that suppliers and the general public can participate to the fullest extent.
- *Participants:* Multiple government agencies
- *Duration:* 18 months
- *Estimated economic benefit:* US$500 million per year (2% of GDP)
- *Estimated project cost:* US$10.2 million

3. GOCR E-Taxation and Revenue Management Project (Proyecto de Tributación Digital)

- *Brief description:* Current operations related to the collection and administration of taxes and revenues exhibit a number of deficiencies, including error-prone forms; inputting mistakes; cumbersome data entry; complex validation and debugging procedures; and high processing costs. Moreover, current systems cannot provide support for anticipated fiscal reforms. The project will implement a new, integrated tax/revenue management model with appropriate technology.
- *Participant:* Ministerio de la Hacienda (Ministry of the Treasury)
- *Duration:* 2 years
- *Estimated economic benefit:* US$800 million per year (3% of GDP)
- *Estimated project cost:* US$20.241 million

Moreover, the Action Plan describes some 20 additional projects which the GOCR is seeking to implement, including, among others, an integrated Social Security system, a Digital Cities initiative, and a national "smart" ID card system.

Ministerio de Ambiente, Energía y Telecomunicaciones (Ministry of the Environment, Energy and Telecommunications, MINAET)

MINAET's overall objective is to promote improvements in the quality of life of the Costa Rican citizenry by promoting appropriate treatment, conservation and sustainable development of those assets under its supervision, and to achieve a balance between national development activities, respect for the natural habitat, and observance of citizens' rights. Responsibility for the telecommunications sector was added to MINAET's portfolio only recently; MINAET's stated objectives as regards this sector can be summarized as follows: To guarantee that telecommunications become a central element in promoting sustainable human development in an inclusive and unified convergent environment, in accordance with the declarations of the World Information Society Summit. The telecommunications portfolio is held by a Vice-Minister (currently Ms. Hannia Vega).[5]

In May 2009, not long after the new sector legislative and regulatory framework had come into

[5] Recently there have been reports that the Vice-Ministry may be split off and reconstituted as a separate ministry with sole responsibility for telecommunications; however, progress in this direction is evidently hindered by the existence of a government decree which forbids the creation of new ministry-level entities.

effect, the Vice-Ministry produced a document known as the *Plan Nacional de Desarrollo de las Telecomunicaciones 2009–2014* (National Telecommunications Development Plan 2009–2014). Among other things, the Plan Nacional offers a brief survey of the state of the sector in Costa Rica; the legal, regulatory and institutional framework; and an outline of a national telecom sector policy in the general context of a national Information and Knowledge-Based Society. At the same time, the Plan Nacional has been criticized as lacking in specifics (for example, it does not directly address the manner in which the sector – including the particularly critical mobile sub-sector – would be opened to competition, or the timing of such opening.

Autoridad Reguladora de los Servicios Públicos (ARESEP)

ARESEP is the long-established independent multi-sector regulatory agency, which deals with water and wastewater; energy (electricity, fossil fuels); terrestrial, maritime and air transport; and (until recently) telecommunications. In conformity with the requirements of the LGT, in early 2009 the telecommunications arm of ARESEP was reconstituted as the separate Superintendencia de Telecomunicaciones (SUTEL; see below). Although SUTEL is nominally independent of ARESEP, it continues to rely on ARESEP to some extent for resources and logistical support, and indeed is housed on ARESEP's premises.

Superintendencia de Telecomunicaciones (Superintendency for Telecommunications, SUTEL)

SUTEL's three-member Consejo Administrativo or Managing Board, headed by George Miley Rojas,[6] was established in January 2009, and SUTEL formally commenced operations in the same month.

SUTEL moved rapidly to implement its mandate to open the sector to competition. In June 2009, SUTEL issued operating licenses to six new entrants for a variety of services, including high-speed wireline and wireless Internet access and a variety of prepaid telephony services. (Some of the new licensees are described in more detail below.) Reportedly, SUTEL is now dealing with a backlog of some 500 license/authorization applications, although the great bulk of these are for individual cybercafés.

This rapid progress notwithstanding, it is apparent that SUTEL faces challenges in a number of areas. The first such area is organizational. SUTEL's total current staff is reported to number 23 – whereas, for example, the staff of CONATEL in Honduras is more than triple that number. More importantly, it takes time to build a fully staffed, effective and efficient regulatory body with the appropriate mix of technical, economic and legal skills. In particular, telecom-knowledgeable economists and lawyers are in short supply in former monopoly environments such as Costa Rica's, since there was little demand for such expertise. Therefore, development of a comprehensive hiring/staffing/capacity-building/training program is expected to be a high priority for SUTEL.

[6] The other members (Comisionados) are Carlos Raúl Gutiérrez and Maryliana Méndez.

A related issue is that, under the new law, SUTEL is responsible for establishing and administering a Universal Service Fund (USF), known as the Fondo Nacional de Telecomunicaciones (FONATEL). Responsibility for a USF can place significant burdens on the regulator, in a number of ways: 1) an appropriately targeted and prioritized Universal Service policy needs to be developed and put into effect, with input from a variety of stakeholders who often operate at cross-purposes; 2) substantial sums of money need to be collected from operators and maintained under suitable safeguards; and 3) the Universal Service projects supported by the USF require significant administration and oversight.

A second area of challenge concerns the fixed-line operator ICE. Shortly after SUTEL's establishment, the former monopolist attempted unilaterally to raise basic tariffs across the board, on the grounds that prices were no longer subject to regulation once its exclusivity had been abolished. Shortly thereafter, ICE refused to make periodic regulatory fee payments to SUTEL, depriving the regulator of virtually all its income and nearly forcing a shutdown of its operations. In both cases, however, pressures were successfully brought to bear on ICE to reverse itself. Still, as a large and profitable company that is also a major source of employment, ICE has considerable resources and influence at its disposal.

A third area relates to the inherent complexity of the regulatory process. It is relatively simple to issue, say, a license for prepaid IP telephony or for voice and Internet access via CATV; it is much more difficult and complicated to deal with the issues of interconnection, facilities sharing, co-location, etc., that subsequently arise. In a similar vein, the process of structuring and implementing the necessary tender processes to open the mobile telephony market to competition – which SUTEL is committed to carrying out in 2010 – will create some extremely thorny problems, including complex matters of bidder qualifications, minimum bid-price "floors," coverage and roll-out obligations, spectrum pricing and especially re-allocation of available spectrum for second- and third-generation mobile operations, two-thirds of which is currently assigned to ICE. In other words, many of SUTEL's most difficult and challenging tasks still lie ahead, and the time available to prepare adequately for them is short.

Grupo ICE

Originally set up in 1949 as the state-owned national electric company, ICE's remit was extended, in 1963, to include all forms of public telephone, telegraph and radio communications. Today ICE continues to dominate both the fixed-line and mobile sectors, although entry of new mobile competitors is anticipated in the 2011–2012 timeframe; while ICE's data/Internet subsidiary RACSA remains the major provider of both bandwidth services and Internet access.

ICE's backbone infrastructure includes fiber-optic rings that support the delivery of basic and advanced wireline and wireless services. Furthermore, ICE enjoys good international connectivity, being linked to the global submarine cable system via three landing-points on both the Atlantic and Pacific coasts. As regards access and "last-mile" networks, ICE claims to be able to provide connectivity over its IP infrastructure at throughputs ranging from 6 megabits/sec (Mbps) to 1 gigibit/sec (Gbps). Additionally, ICE has been deploying wireless networks based on the WiMAX

platform, targeting those parts of the country that are not well covered by the traditional backbone network.

Beginning in 2009, evidently with a view to maintaining its position in the telecom marketplace in the face of incipient competition, ICE began to broaden the range of services offered, in particular by launching third-generation (3G) cellular/mobile services and also IP-based television (IPTV) and Voice over Internet Protocol (VoIP). The latter service offerings are evidently aimed at positioning ICE as a so-called "triple-play" provider (i.e., a provider of a "bundled" voice / Internet access / video service).

Other Telecom Operators and Licensees

While the sector continues to be dominated by ICE, a number of alternative operators have either been active in niche markets and/or have recently received new licenses from SUTEL and are emerging as potential challengers to the dominant operator. The following can be cited in particular:

- **Worldcom de Costa Rica S.A.** (unrelated to the former Worldcom/MCI in the U.S.), a facilities-based operator with a well-developed niche market serving private- and public-sector corporate clients. The company is headed by Valentin Horvilleur, General Manager. Worldcom claims that its microwave-based network covers the entire country. According to Mr. Horvilleur, the company specializes in providing high-quality managed business services, backed by Service Level Agreements, to its demanding customer base, with very rapid turn-around times. Mr. Horvilleur also indicated that Worldcom's annual revenues are on the order of US$3 million.
- **Redes Inalámbricas de Costa Rica S.A. (REICO)**, which has been in operation for six years. The General Manager is Miguel Solís. REICO claims to have a nationwide wireless network that extends from the border with Nicaragua in the north to the border with Panama in the south, the network being used primarily by business and corporate clients for transport of data from remote sites to processing centers. The network (including its backbone links) is based entirely on a WiFi platform, and correspondingly has limited capacity. Nonetheless, REICO has recently obtained authorization to offer VoIP service and Internet access, and hopes to be able to offer these services at reasonable prices, particularly in rural and remote areas which are currently unserved or underserved. REICO reports that it is currently seeking capital investment in order to accomplish these aims.
- **Junta Administradora del Servicio Eléctrico Municipal de Cartago (JASEC)**, the municipal electric company in Cartago, a city 25 km east of the capital San José. The firm is headed by Oscar Meneses, General Manager. JASEC, whose primary business is generation, transmission and distribution of electricity to a reported 80,000 customers in Cartago and environs, recently obtained licenses from SUTEL and is seeking to become an alternative provider of CATV services and high-speed Internet access by deploying telecom transmission infrastructure along its rights-of-way. JASEC reports that it has engaged specialized assistance with this initiative, and that it is on the verge of launching a competitive tender for the provision of a "turnkey" solution. If JASEC is successful in this venture, it will in effect create a "digital island" in Cartago, and its customers will gain access to a so-called "triple play" suite of services (Internet access, video, and IP telephony).

The Internet sub-sector is fully liberalized, and market entry procedures for both ISPs and cybercafés

have reportedly been streamlined, although the latter are still authorized on a case-by-case basis. There are numerous second- and third-tier ISPs in addition to ICE/RACSA's Internet operations.

Major End Users

Taken collectively, the public sector in Costa Rica is by far the single largest user of ICT and telecom services. Apart from the Executive, Legislative and Judicial branches, there are about a dozen ministries or ministry-level entities (many of which are regionalized and/or have multiple administrative subdivisions), as well as important and powerful institutions such as the Contraloría General (Controller General), Instituto Costarricense de Turismo (Costa Rican Tourism Institute), Consejo Nacional para Investigaciones Científicas y Tecnológicas (National Council for Scientific and Technological Research) and the Instituto del Café (Coffee Institute). Furthermore, notwithstanding Costa Rica's considerable progress in privatization of state-owned assets, numerous state-owned enterprises (including Grupo ICE, see above) still remain The total number of public-sector employees is difficult to estimate, but probably falls in the range of 250,000–300,000. With some notable exceptions, as a general rule the ICT infrastructure of public-sector institutions is not as well developed as that of their private-sector counterparts, partly because of delays in making ICT a priority, and also because of practical difficulties in funding large-scale, long-term ICT development projects on the basis of annual budget allocations.

Industry Organizations: Cámara de Tecnologías de la Información y Comunicación (ICT Chamber, CAMTIC)

CAMTIC, established in its present form in 2003, is the premier ICT industry organization in Costa Rica. Its stated aims are 1) to promote a favorable climate for the development of ICT-related business, and 2) to foster capacity-building in the sector, for example by assisting local ICT firms to obtain ISO and other certifications. It claims a membership of 220 companies (out of a total sector universe of some 700). The current chairman is Alexander Mora.

CAMTIC's range of activities is broader than that of a typical industry interest group; the organization coordinated closely with the GOCR during the protracted CAFTA-DR negotiations, and also reports that it has worked jointly with the Inter-American Development Bank on a variety of ICT project initiatives, with a total value of US$10 million, over the last several years.

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The remainder of this report describes a particular project opportunity which the DM Contractor recommends as a viable candidate for USTDA support, namely a proposed combined Feasibility Study / Technical Assistance (FS/TA) on behalf of the Secretaría Técnica de Gobierno Digital (STGD) in the area of planning and implementation of the so-called Infraestructura de Conectividad del Estado Costarricense (Connectivity Infrastructure of the Costa Rican State), also known as the "Government Intranet" project, described briefly on pp. 7–8 above.

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SECTION II

PROPOSED TECHNICAL ASSISTANCE ON BEHALF OF THE SECRETARIA TECNICA DE GOBIERNO DIGITAL (TECHNICAL SECRETARIAT FOR E-GOVERNMENT, STGD)

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A. EXECUTIVE SUMMARY

Among other activities, the present Definitional Mission (DM) to the ICT and Telecom sectors in Costa Rica conducted a series of meetings with representatives of Secretaría Técnica de Gobierno Digital (STGD). The STGD is the primary public-sector institution charged with the promotion of e-government initiatives, and, in so doing, to make public administration more flexible, responsive and transparent, to improve the relationship between government and the citizenry, and to promote the over-all productivity and competitiveness of the country.

The STGD is seeking assistance with one particular high-priority project, the "Government Intranet" project, formally known as the Infraestructura de Conectividad del Estado Costarricense (Connectivity Infrastructure of the Costa Rican State, henceforth referred to by its Spanish abbreviation ICEC). The objective is to create a common government-wide ICT infrastructure that will enable the development of an overall e-government architecture. The infrastructure will allow public-sector entities to share resources, exchange information, implement joint processes and activities, offer services and handle casework on-line, promote e-commerce and facilitate access of all citizens to the corresponding information and services.

Two key components of the ICEC Project are:

1. A robust backbone network that would link the major locations of the participating institutions, and
2. A state-of-the-art shared data center / hosting facility that would perform a number of functions – for example, it could act as a primary data center for those institutions currently lacking such a facility, or as a backup / disaster recovery center for those who currently have some facilities of their own. It could also house equipment, act as an Operations Center, and so forth.

The assistance being sought by STGD is in the nature of a Technical Assistance (TA), although it includes some aspects that are more in the nature of a Feasibility Study (FS). The more Feasibility Study-oriented aspects include, for example, a legal/regulatory review (for example, to ascertain any legal/regulatory impediments to the structuring or implementation of the proposed initiative); and an economic/financial analysis (for example, to determine the cost implications and financial feasibility of the associated migration from current "stand-alone" to shared systems and infrastructure). Technical Assistance aspects include a structured survey and "baselining" of the current situation; analysis of baseline data; and development of high-level functional specifications and architecture.

The DM Contractor notes that the ICEC Project is innately complex, and involves a number of uncertainties. Two issues in particular appear to be difficult if not impossible to evaluate within the framework of the present DM, and indeed will require significant attention on the part of the proposed TA. The first of these is the level of participation by, and cooperation among, the participating public-sector institutions, in light of the fact that STGD does not have the power to compel their participation. The second issue is the

proposed Build-Own-Operate (BOO) structure for the ICEC Project, whose applicability in the Costa Rican public sector appears to be untested.

At the same time, the DM Contractor believes that the proposed TA is justified on the basis of its potential for exceptionally broad positive developmental impacts, both for the Costa Rican public sector as a whole and for the citizenry at large. The ICEC Project also offers strong opportunities for participation of U.S.-based suppliers of systems, equipment and services. The U.S. export potential of the ICEC Project is difficult if not impossible to calculate directly, but can be estimated by "benchmarking" against similar initiatives in comparable environments. Based on the benchmarking exercise that was conducted, the export potential is estimated at not less than US$20.6 million, and more probably at around US$25 million.

A further consideration is that, as a large-scale, high-priority and high-visibility initiative, the ICEC Project is virtually certain to attract the attention of foreign competition; a USTDA-funded TA will enhance the prospects for U.S. participation.

Accordingly, the DM Contractor believes that the proposed TA on behalf of STGD represents a good use of USTDA resources, and makes a recommendation that it be funded at a total budget level of $437,512, under the conditions set forth in the accompanying Terms of Reference.

B. PROJECT DESCRIPTION

1. Definitional Mission Background

In the course of the in-country portion of the DM (13–22 October 2009), a series of meetings was conducted with representatives of Secretaría Técnica de Gobierno Digital (STGD). The STGD is seeking assistance with one particular high-priority project, formally known as the Infraestructura de Conectividad del Estado Costarricense (Connectivity Infrastructure of the Costa Rican State, henceforth referred to by its Spanish abbreviation ICEC), and informally as the "Government Intranet" project. The objective is to create a common government-wide ICT infrastructure that will enable the development of an overall e-government architecture. The infrastructure will allow public-sector entities to share resources, exchange information, implement joint processes and activities, offer services and handle casework on-line, promote e-commerce and facilitate access of all citizens to the corresponding information and services.

In principle, all public-sector entities are to be included; from a practical standpoint, the STGD believes that the most likely way forward is to identify and work with a certain "critical mass" comprising the largest and/or most ICT-intensive institutions that would make the initiative viable at startup, while at the same time allowing for the phased inclusion of other institutions as they become willing and able to participate.

Two key components of ICEC are:

1. A robust backbone network that would link the major locations of the participating institutions, and
2. A state-of-the-art shared data center / hosting facility that would perform a number of functions – for example, it could act as a primary data center for those institutions currently lacking such a facility, or as a backup / disaster recovery center for those who currently have some facilities of their own. It could also house equipment, act as a Network Operations Center (NOC), and so forth.

The assistance being sought by STGD is in the nature of a Technical Assistance (TA), although it includes some aspects that are more in the nature of a Feasibility Study (FS). The more Feasibility Study-oriented aspects include, for example, a legal/regulatory review (for example, to ascertain any legal/regulatory impediments to the structuring or implementation of the proposed initiative); and an economic/financial analysis (for example, to determine the cost implications and financial feasibility of the associated migration from current "stand-alone" to shared systems and infrastructure). Technical Assistance aspects include a structured survey and "baselining" of the current situation; analysis of baseline data; and development of high-level functional specifications and architecture.

As explained to the DM Contractor, under Costa Rican law, a vendor or supplier who carries out a feasibility study or similar pre-project planning/scoping on behalf of a public-sector institution is automatically barred from participation in the ensuing project. Accordingly, it is very important to STGD that the TA be carried out by an independent

party, and indeed this consideration appears to have been a significant factor in shaping STGD's request to USTDA.

2. STGD Mission, Responsibilities, Organization and Activities

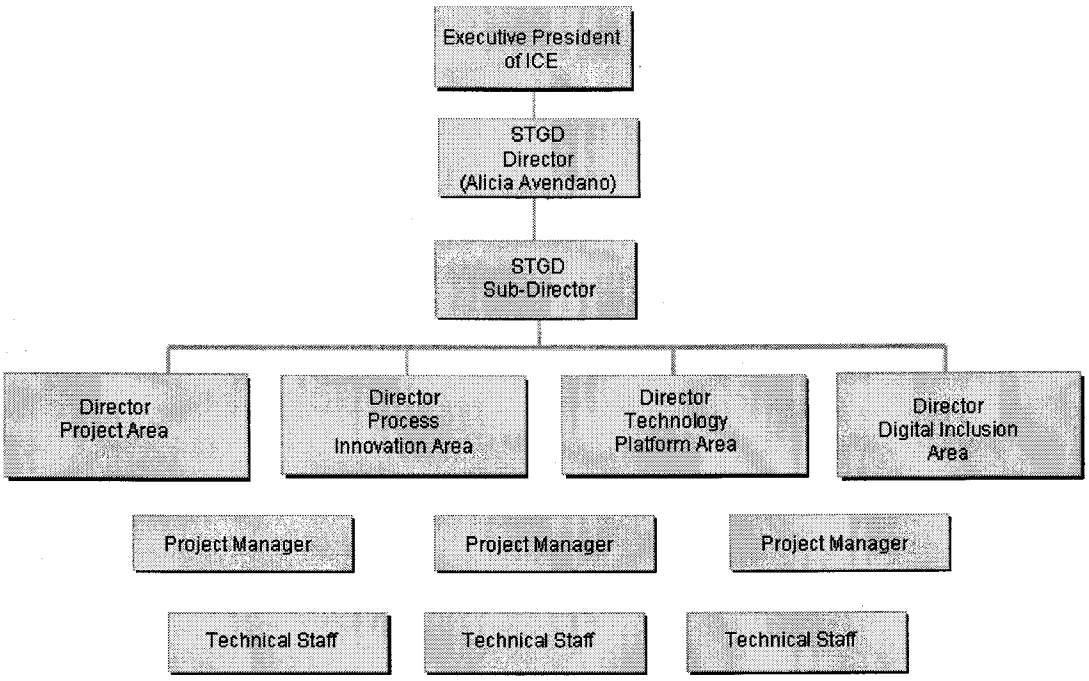
The STGD was established by presidential decree in May 2006 and became operational in October of that year. The current director is Alicia Avendaño. The core staff of STGD numbers some 20 persons; an additional 50 persons, comprising both STGD staff and outside experts (mainly from Korea) are currently engaged in the development of the Electronic Public Procurement (EPP) Project of the GOCR.[1] The mission of the STGD is to make creative use of digital technologies to deliver efficient, high-quality e-services to business and the citizenry; and, in so doing, to make public administration more flexible, responsive and transparent, to improve the relationship between government and the population, and to promote the over-all productivity and competitiveness of the country. The STGD's specific objectives include the following:

- Significantly raise the level of ICT-based knowledge, practice and governance in public-sector institutions
- Improve and ensure key government processes and services
- Promote interoperability of institutional processes
- Significantly raise the level of connectivity within the GOCR
- Improve significantly access to, and knowledge of, technology on the part of the citizenry
- Establish mechanisms and procedures for internal administration of the STGD that have a positive impact on GOCR institutions and personnel

From an institutional perspective, STGD's position within the structure of the public sector is somewhat unusual. As noted in the General Introduction, STGD is currently an arm of Grupo ICE, which includes the dominant telecom operator ICE and its data/Internet subsidiary RACSA, while simultaneously being under the jurisdiction of the Ministry of Planning (MIDEPLAN). This situation is evidently linked to the fact, also noted in the General Introduction, that by the terms of Law 8860 ICE is in effect given an exclusive role in the planning of e-government projects and the provision of e-government services.

The organizational structure of STGD is represented below.

[1] This project is known by the acronym Mer-Link.



The various areas are briefly characterized below.

- **Project Area:** Oriented toward the development of project management standards and to monitoring the portfolio of e-government projects being carried out by public-sector institutions, as well as providing training and methodology for project administration and monitoring.
- **Process Innovation Area:** Deals with the definition and promulgation of policies, guidelines and standards regarding the simplification of administrative procedures and processes.
- **Technology Platform Area:** Defines the technological architecture used to promote e-government, seeking to achieve a balance between efficiency, quality and adaptability.
- **Digital Inclusion Area:** Deals with the dissemination of knowledge among the citizenry regarding e-government as a tool for promoting digital inclusion.

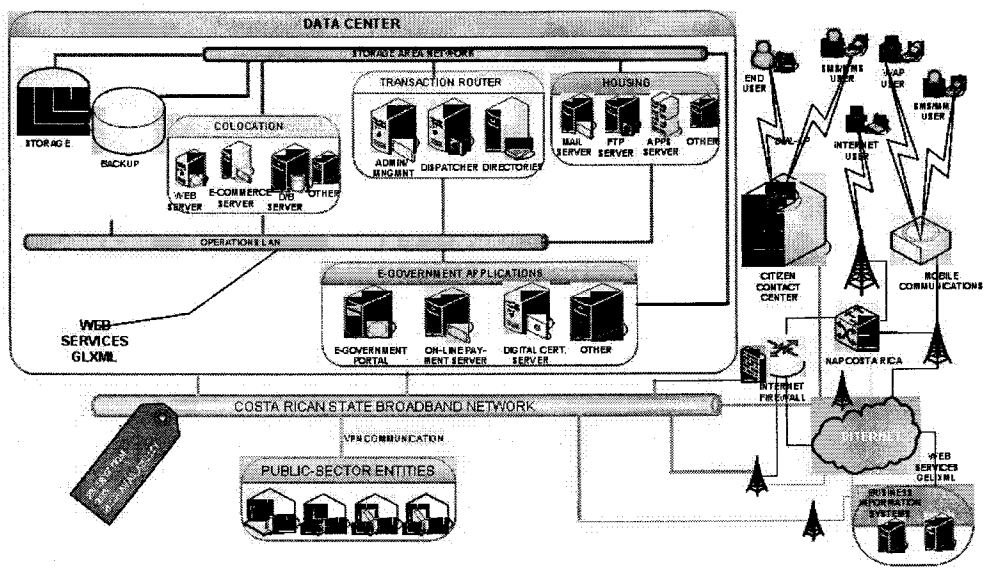
3. The ICEC Initiative of STGD

The STGD is also responsible for developing, socializing and implementing the *Plan de Acción: Gobierno Digital 2008–2010* (e-Government Action Plan 2008–2010, henceforth the "Action Plan"), developed through an extensive consultation process with a wide range of public-sector institutions and published in January 2008. The Action Plan describes and prioritizes a variety of short-, medium- and long-term projects, ranging from complex, multi-disciplinary undertakings with multimillion-dollar budgets to limited, specific initiatives. Three major projects are given the highest priority; the first of these is the ICEC Project referred to above, and characterized briefly in the table below.

Name of Project	Infraestructura de Conectividad del Estado Costarricense (ICEC) (unofficially, "Government Intranet Project")
Brief Description	The objective is to create an underlying technological infrastructure that will enable the development of an e-government architecture.
Participating Institutions	First phase: 10 major public-sector institutions; second phase: anticipated extension to all public-sector institutions
Expected Duration	36 months
Estimated Economic Benefit	US$100 million per year (0.5% of GDP)
Estimated Project Capital Cost	US$40 million (STGD estimate, Oct. 2009)

General Framework

The following graphic offers a general conceptual overview of the ICEC Project:



It should be added that the entire ICEC Project is set within the broader context of the Government Intranet initiative, covering the following areas to be addressed in successive phases:

- **Technology infrastructure**, including:
  - Communications
  - Data/Computing
  - Contact
- **Interoperability platform**, including:
  - Transaction core standards and policies
  - Data Center interoperability issues

- Contact Centers
- Government Portal

The proposed USTDA-supported TA is intended to provide the roadmap and guidelines for the first of these areas, i.e., the implementation of the technology infrastructure. This infrastructure includes:

- **Communications infrastructure:** A shared broadband voice/data network that will interconnect GOCR institutions in a secure configuration, with high degrees of availability and quality.
- **Data infrastructure:** A shared Data Center that will accommodate e-government applications, and will also house the hardware and services of other government entities in an integrated, centralized infrastructure. Additionally, the infrastructure will provide the capability to support backup, contingency and business-process continuity mechanisms, as well as data storage, with adequate levels of service quality and security, and leveraging economies of scale in the engagement of computing solutions which the GOCR requires. The concept is rooted in an on-demand or utility computing model which will guarantee high availability and security. Such a facility will enable government entities to focus on service delivery and not on the underlying technological elements.
- **Contact infrastructure:** A point at which the citizenry can access the various services offered by the various institutions of the GOCR, such access to be provided via a number of different channels including call centers, portals, the Internet, e-mail and interactive chat sessions, so as to provide immediate attention and response to requests for information formulated by the citizenry and public-sector functionaries regarding the services, information and procedures of the GOCR.

In the course of discussions with STGD, it was agreed that, while important, planning and design of the contact infrastructure does not present a good "fit" to the engagement of outside technical expertise. Accordingly, the focus of the proposed TA is the communications infrastructure and data infrastructure.

In addition to the above, the STGD anticipates that there will be a subsequent phase (also outside the scope of the proposed TA), which is the development of an interoperability platform. The main elements of this platform are:

- **Standards and policies** that will be used for defining a common language for the various information systems of the various GOCR institutions, such that they can exchange information and interoperate efficiently and with adequate functionality.
- **Transaction core:** The "engine" that handles the management or routing of each and every transaction that takes place within the Government Internet.

A final element (also outside the scope of the proposed TA) is the e-Government Data Portal, the public "face" of the ICEC project, the aim of which is to provide a centralized tool to facilitate the processes by which the various GOCR institutions disseminate and update information and procedures in a streamlined, simple manner without involving end-users in technological or operational complexities.

Participating Institutions

In principle, all public-sector institutions in Costa Rica (of which there are perhaps several dozen to a hundred, depending on how defined) would be eligible to participate in the ICEC Project. In practice, of course, the actual number will be a function of the degree of readiness, willingness and ability of the various institutions, and in any case the ICEC project will be carried out in phases, with the initial phase being limited to a relative handful of larger and more ICT-intensive organizations. Informally speaking, STGD intends to employ an "80/20" approach, i.e., to seek to engage initially the roughly 20% of those institutions that are believed to account for roughly 80% of public-sector activity. This "leading 20%" are referred to as the "primary" potential participants, while all other institutions are designated as "secondary."

STGD has identified, on a preliminary basis, the most likely candidates for the "primary" category; these are enumerated in the table below.

Name of Institution	Number of Employees	Geographical Distribution
1. Caja Costarricense de Seguro Social (Social Security Agency, combining the functions of the Ministry of Health and the Social Security Administration)	50,000	• Approx. 900 medical points (EBAIS) • 104 Clinics • 34 Hospitals
2. Ministerio de Educación (Ministry of Education)	80,000	• 4046 Schools • 713 Colleges • 95 Technical Colleges • 55 Special-Ed Facilities
3. Ministerio de Seguridad (Ministry of Public Safety)	13,750	• 10 regional HQ • 85 police units
4. Ministerio de Hacienda (equivalent of the Department of the Treasury)	3,000	• 10 regional HQ • 7 customs points throughout the country
5. Dirección de Migración (Immigration Agency)	650	• 22 agencies throughout the country
6. Tribunal Supremo de Elecciones (Supreme Electoral Board)	1,200	• 32 regional HQ
7. Poder Judicial (Judicial Authority)	7,000	• 900 offices throughout the country
8. Registro Nacional (National Register)	1,023	• 5 agencies throughout the country
9. Bancos Comerciales Estatales (state-owned commercial banks)	12,168 (combined)	• 3 state-owned banks: - Banco Nacional - Banco de Costa Rica - Banco Popular • 617 agencies (combined) throughout the country
10. Gobiernos Locales/Municipales (local and municipal governments)	10,000	• 81 municipalities throughout the country

Summarizing these data, it can be observed that the first phase of the ICEC Project covers ten major public-sector institutions with a combined total of nearly 180,000 employees. Also, given the extent to which these institutions are distributed across the country, it is apparent that the Project will be nationwide in terms of its geographical scope.[2]

The above-listed institutions are the ones with which the proposed TA will be principally concerned, although the remaining institutions are expected to be taken into consideration to some extent for planning purposes.

Anticipated Benefits

The STGD has identified a number of significant benefits which the ICEC Project is intended to provide. Obviously, a major benefit derives from the consolidation and rationalization of existing connectivity infrastructure, with concomitant elimination of redundancies and inefficiencies inherent in the current arrangements. By replacing the multiplicity of individual networks currently used by various public-sector organizations with a unified backbone architecture, it is anticipated that both capital and ongoing operational expenditures will be substantially reduced. Because information on current spend levels in the public sector have not yet been gathered, it is not possible to estimate quantitatively what economies might be achieved; however, it is reasonable to suppose, based on general experience in other similar environments, that the levels of savings could run to millions of dollars per year. Furthermore, it can be anticipated that the unified backbone network will be custom-engineered to guarantee very high levels of availability, reliability and performance, thus ensuring that "mission-critical" applications and services will be supported and delivered on an uninterrupted basis.

Similarly, the new shared Data Center is expected to provide better quality services at lower costs, thus improving public-sector efficiency and improving the access of the citizenry to a range of government-provided services (health, education, public safety, etc.). More specific anticipated benefits of the shared Data Center are as follows:

- Ease of integration of public-sector systems and services
- Assurance of adequate and secure space for public-sector ICT equipment and systems
- Assurance of adequate computational capacity for public-sector applications
- Provision of unified Help Desk service for users
- Provision of proactive monitoring and intervention capabilities
- Guaranteed uninterrupted service capability
- Availability of sufficient specialized personnel
- Flexibility in dealing with problems of rapid obsolescence of Data Center hardware and software

[2] That said, it should be borne in mind that, in terms of connectivity, the focus is on the required backbone network infrastructure, and not, for example, the required connectivity to each individual school or local medical point.

C. DEVELOPMENTAL IMPACT

Primary Developmental Benefits

Given that the ICEC Project potentially involves every Costa Rican public-sector institution, and potentially impacts the manner in which every such institution interacts with and delivers services to the citizenry, the anticipated developmental impact is exceptionally broad. The backbone network and Data Center facilities that are put in place as a result of the project will allow public-sector entities to share resources, exchange information, implement joint processes and activities, offer services and handle casework on-line, promote e-commerce and facilitate access of all Costa Rican citizens to the corresponding information and services.

Particular developmental benefits can be enumerated as follows:

- **Infrastructure:** Creation of new ICT infrastructure, both in terms of backbone network and Data Center facilities, is a fundamental aspect of the ICEC Project. Furthermore, it is anticipated that this ICT infrastructure can be designed in such a way as to take maximum account of newer, higher-performance and more cost-effective solutions. The ICT infrastructure will be capable of delivering reliable, secure, and state-of-the-art connectivity, services and applications to the participating institutions, which in turn will enable the realization of the substantial benefits enumerated in the preceding section.
- **Human Capacity Building:** In terms of the number of people involved, the initial direct capacity-building impact of the proposed TA will probably be confined to the staff of STGD, plus the key ICT liaison personnel at the participating institutions – as best as can be currently estimated, perhaps 50–100 people would be directly affected. Less directly and longer term, the new infrastructure will enable streamlining and re-engineering of existing institutional processes, with positive human capacity-building effects.
- **Technology Transfer:** The Costa Rican ICT environment is already relatively sophisticated, and the ICEC Project is primarily an exercise in consolidation and rationalization of existing technology and platforms, rather than deployment of entirely new ones. In all likelihood, the ICT infrastructure that is deployed at in conjunction with the ICEC Project, while being state-of-the-art, will at the same time be in general use elsewhere in the world. It appears that the principal benefits that will accrue will be in the areas of increased efficiency, reliability, productivity and ease of use, as well as reduced costs of operation.
- **Market Oriented Reforms:** As a technical intervention on behalf of a state agency in Costa Rica, the proposed TA is not expected to contribute significantly to market-oriented reforms. In terms of the ICEC Project itself, it could perhaps be argued that the position of the dominant national operator ICE as supplier of connectivity to the public sector would be reinforced, possibly with anti-competitive effects. At the same time, it should be noted that ICE's status in this regard is clearly spelled out in Law 8860; the proposed project would simply be complying with the provisions of the law.

D. PROJECT SPONSOR'S CAPABILITY AND COMMITMENT

The strong commitment of the interested parties, including STGD, the Ministerio de Planificación Nacional (MIDEPLAN), and indeed the Office of the Presidency, to Costa Rica's general goal of vigorously promoting e-government initiatives is not in doubt. As noted in Section I of this report, moreover, the policy and legal/regulatory framework provides considerable explicit support for this commitment. Furthermore, the director of STGD, Alicia Avendaño, has consistently been at the center of e-government initiatives in Costa Rica for the past several years, and is generally credited with being a person who gets things done.

It should be noted, however, that while STGD is currently the focal point of e-government initiatives in Costa Rica, the process of finding a "home" for such initiatives has been a complicated one. STGD previously reported to the Office of the Presidency (specifically, to one of the two vice-presidents) and subsequently to the Ministry of Justice. Currently, STGD is in the somewhat curious position of being an entity under the jurisdiction of MIDEPLAN while simultaneously a member of Grupo ICE – in effect an arm of the dominant telecom operator. It is reported that the Minister of Planning, Roberto Gallardo, would like to see STGD's position strengthened and consolidated; but on the other hand a change of administration as a result of forthcoming elections in February 2010 could have unforeseen consequences for STGD's future. In short, while a future scenario involving a strengthened STGD appears to be one possibility, it is not a certainty.

Furthermore, as noted previously, the STGD does not have the power to compel other public-sector institutions to cooperate or participate in shared-facilities arrangements or e-government initiatives; it must rely on persuasion and demonstration of the attendant benefits, and lead by example. Even if STGD did have such power, moreover, any initiative that involves a large number of disparate and previously non-cooperating public-sector entities is almost certain to encounter institutional difficulties, some of which may be difficult or impossible to foresee or assess.

Finally, assuming that STGD has the standing to organize an international tender for the ICEC – and there is presently no reason to assume that it does not, but the proposed TA would need to verify this – some questions may be raised by the fact that STGD's parent entity ICE would not be a neutral party but rather a major beneficiary of the outcome. There would appear to be at least a potential for conflict of interest, for example if ICE were to sway a decision in favor of a bidder who offered the greatest benefits to ICE as opposed to one who offered the most appropriate and/or cost-effective solution for the ICEC Project.[3]

[3] In part because of this situation, and in consultation with USTDA, the DM Contractor judged that, while the beneficiary of any TA should clearly be STGD, the sponsor should formally be the Ministerio de Planificación. While this arrangement still seems desirable from an institutional standpoint (and Minister Gallardo has agreed to it), it does not resolve the issues raised in this section.

Finally, the DM Contractor feels obliged to note that he expected, on the part of STGD, a higher level of preparatory work vis-à-vis the ICEC Project than appears to have been the case. One of the first information requests made to STGD was for a listing of the participating institutions, together with an indication of number of employees; number of major locations around the country; brief characterization of existing ICT infrastructure; etc.; and, furthermore, an indication of which institutions were regarded as "priority" or "primary," and which were of secondary importance to the initiative. Evidently no such list existed, and STGD was able to furnish a preliminary version only after the DM Contractor's departure. Absence of such a list suggests that STGD's liaison and involvement with the respective institutions has not progressed very far since the original consultation process which resulted in the ICEC Project being assigned top priority.[4] The DM Contractor is of the opinion that this concern could be alleviated if STGD could show evidence of more proactive engagement with the proposed participating institutions prior to commencement of the proposed TA.

E. IMPLEMENTATION FINANCING

As noted previously, STGD's official estimate of the capital cost of the entire ICEC Project (quoted in the *Plan de Acción* and also cited by Ms. Avendaño) is US$40 million, although this figure evidently represents an educated guess. On the basis of the "benchmarking" exercise described in the next section, the DM Contractor was able to develop a somewhat more refined but still approximate estimate of US$42.5 million, of which the broadband network component accounts for approximately US$31.7 million, while the Data Center component accounts for the remaining US$10.8 million. More precise estimates cannot be developed without actually carrying out the proposed TA, since the list of public-sector institutions that would participate, or participate in the initial phase, is only approximately known at present.

Because the dominant national operator ICE is expected to play a major role in providing backbone connectivity, but in all probability a lesser role (or no role at all) in the Data Center component, the implementation financing requirements for the two components should be treated differently.

Backbone Network Component

The DM Contractor was informed that Cisco is currently assisting ICE to obtain a US$500 million long-term line of credit, of which US$250 million is earmarked for fiber-optic backbone networking projects. Assuming that this financing can be secured – and Cisco representatives confirmed that the prospects appeared to be very good – ICE should have the financial wherewithal to implement the ICEC Project in whatever form it takes (presumably after conducting its own internal financial analysis, since although the

[4] STGD did put the DM Contractor in touch with a senior IT person at the Caja Costarricense de Seguro Social (which combines the functions of the Ministry of Public Health and Ministry of Social Welfare, and has some 46,000 employees), and the person in question was able to provide considerable detail about that institution's current ICT situation, needs and requirements.

project offers prospects for greater efficiencies through consolidation and rationalization of existing infrastructure, at the same time it will probably decrease the telecommunications costs of the public-sector institutions which ICE currently serves).

Shared Data Center Component

Implementation for the Data Center component is more problematic. It appears that neither STGD itself nor the Ministerio de Planificación has direct access to substantial sources of financing. An inquiry to the World Bank yielded the information that the Bank is not funding any initiatives in the e-government area in Costa Rica at present; a similar inquiry to the Inter-American Development Bank indicated some interest, but that more information (of the kind generated by the proposed TA) would be required in order to make an evaluation.

In the course of discussions with STGD, it became apparent that, reduced to its essentials, STGD's current plan for financing the Data Center component of the ICEC Project – and also the backbone network component, to the extent that ICE is unwilling or unable to do so – involves structuring and implementing a Build-Own-Operate (BOO) arrangement or something similar.[5] In other words, in STGD's view, once the approximate size, scope, functionality, etc. (as established by the proposed TA) of the two Project components are known, STGD would organize an international public tender to select an ICEC provider (or providers, since conceivably the providers of the two components could be different). The winning bidder would obtain, in effect, an exclusive concession for provision of service to the public-sector entities in question for a determined period of time (say 5 to 7 years). In turn, the ICEC provider would need to construct, own and operate the Data Center and coordinate or broker the resources necessary to provide the requisite connectivity (much if not all of which would be supplied by ICE, as already noted).

As far as can presently be determined, there is no clear precedent for such an approach in Costa Rica, nor is there a developed Public-Private Partnership (PPP) framework that would allow for some form of joint participation and risk-sharing. The magnitude and prominence of the project are such that the fact that nothing similar has previously been done is itself a matter of concern. Furthermore, as noted previously, STGD does not have the power to compel the participation of other state entities in the ICEC Project. One possible downstream risk is that STGD might find few or no takers at the international-tender stage, since STGD would evidently be unable to provide guarantees regarding either the level of participation of other public-sector institutions or the overall ability of those institutions that do participate to pay adequately for the services rendered. Prospective vendors, faced with having to absorb the "hard" costs of data center construction, might regard such an arrangement as risky, although the risk could perhaps be mitigated by mechanisms such as export credits provided by U.S. Ex-Im Bank or comparable institution. It will be necessary for the TA to examine these issues in greater depth and to recommend an optimum business model and financing strategy.

[5] STGD did not specifically use the term Build-Own-Operate.

On the other hand, it should be pointed out that the uncertainties in implementation financing concern primarily the Data Center component, which is by far the less important in terms of U.S. export potential (see the next section for further discussion).

F. U.S. EXPORT POTENTIAL

General

In other situations involving estimation of the U.S. export potential of an ICT-related project, it is possible to arrive at a "bottom-up" estimate of the project hardware/ software/other requirements (e.g., by tallying the number of multiplexers, routers, switches, servers, storage devices, etc.; the approximate number of "seats" for estimating software licenses; and so forth), and in turn to use such a calculation to estimate the U.S. export potential. In the present case, there is simply no way to do this; neither the list of participating public-sector institutions nor the current "baseline" environment of these institutions is currently known, and correspondingly it is not possible to estimate, even in order of magnitude, what will eventually need to be procured in order to make the ICEC Project a reality. In the opinion of the DM Contractor, the only feasible way to arrive at such estimates is to "benchmark" the ICEC Project against comparable projects that have been undertaken in similar environments. If the costs of these comparable projects are known, it should be possible to make reasonably accurate estimates about the likely costs of the ICEC Project, and on that basis to draw some defensible estimates of U.S. export potential.

In the DM Contractor's opinion, the ideal "benchmark" project would have the following characteristics:

- Involve a country whose geography, population size and public sector employment are roughly comparable to Costa Rica's
- Include at least a majority, if not the totality, of public-sector institutions
- Include both a connectivity/networking and a Data Center component
- Have a known cost structure (furthermore, in order for the costs to be comparable, the project should either have been completed within the last few years or should currently be in progress)

After conducting extensive research, the DM Contractor was able to identify three projects, in New Zealand, Greece and Armenia respectively, which are believed to provide suitable benchmarks. These projects are briefly characterized below.

Greece

Country Population	11,328,000 (2008)
Size of Public Sector	~1 million employees (around 25% of entire workforce and the largest in the European Union on a per capita basis)
Name of Public-Sector ICT Initiative	Syzefxis National Public Administration Network
Brief Description of Initiative	Syzefxis the main project for the provision of advanced telecom and ICT services with high added value to public-sector agencies on a nationwide level. These services include voice, data and video transmission, provided in a secure and reliable manner without geographical restrictions. The objective of Syzefxis is to modernize the public administration in the country through development of advanced telecom infrastructures and utilization of value-added information services, as well as to promote cooperation among public agencies in the provision of services to citizens. The project provides the basis for the creation of the necessary infrastructures in the context of the Information Society and e-Government. The Syzefxis infrastructure facilitates more efficient management and movement of information between Greek public agencies at a nationwide level and improves the effectiveness of their co-operation. In addition, the application of a uniform pricing policy for telephone calls outside Syzefxis and free calls within the network, make a decisive contribution to reducing the cost of using telecommunications services within the public sector.
Scope of Initiative	2,500 public-sector agencies and institutions (Ministry of Interior and Public Administration, Ministry of Economy and Finance, Customs, Health Services, some local governments, others), but excluding the educational sector which accounts for some 175,000 employees
Includes Back-bone Network Infrastructure?	Yes
Includes Shared Data Center?	No
Total Cost	Capital cost €100 million (US$145 million)
Est. Capital Cost per Public-Sector Employee	$176 (based on estimate of 825,000 participating employees)

New Zealand

Country Population	4,268,600 (2008)
Size of Public Sector	42,047 employees (2007 – last year for which statistics available)
Name of Public-Sector ICT Initiative	National e-Government Programme
Brief Description of Initiative	The National e-Government Programme is a way of harnessing use of the Internet, personal computers, mobile phones and other technologies to provide more convenient access to government information and services, to improve the quality of services and to provide greater opportunities to participate in New Zealand's democratic institutions and processes. In light of the rapidly changing technological environment, government agencies need to examine how new channels can be utilized to deliver information and services, and at the same time, an increasingly technological population will be seeking to use new channels to interact with government agencies. The New Zealand State Services Commission formed the e-Government Unit in 2000. The National e-Government Programme was defined in strategies approved in 2001 and 2003, and implemented between 2002 and 2006. Accordingly, the cost figures indicated below represent actual expenditures, not estimates. (The reason for the high ongoing operating cost relative to the capital cost is not explained and remains unclear; however, for present purposes the capital cost is the more relevant figure.)
Scope of Initiative	All public-sector agencies and institutions
Includes Back-bone Network Infrastructure?	Yes
Includes Shared Data Center?	Yes
Total Cost	Capital cost $10.3 million, ongoing operating cost $62.6 million (2002–2006)
Capital Cost per Public-Sector Employee	$245 (actual, based on 2002–2006 data)

Armenia

Country Population	3,077,000 (2008)
Size of Public Sector	223,300 (ILO database, 2007; the current number may be lower in light of ongoing efforts to reduce the public-sector workforce)
Name of Public-Sector ICT Initiative	Broadband Backbone and Government Intranet
Brief Description of Initiative	Initiative undertaken by the Ministry of Economy under the sponsorship of the Prime Minister's Office, and in consultation with an Advisory Board consisting of both national and international stakeholders. Objective is to create a national backbone network that can provide the basis for a public-sector Virtual Private Network (Government Intranet), as well as a supportive environment for the development of a knowledge-based society in Armenia. A particular aspect of the initiative is that it envisages that inefficient back-office government processes will be outsourced to Public-Private Partnerships (PPPs). The project, which is being funded under a World Bank grant, was announced in May 2009; an international public tender was subsequently conducted for consulting services in conjunction with the planning and implementation of the national backbone network and Government Intranet. The tender was won by the German firm Detecon International (the consulting arm of Deutsche Telecom), and the planning work is currently under way.
Scope of Initiative	18 Ministries and other public-sector entities, covering all major public-sector institutions
Includes Back-bone Network Infrastructure?	Yes
Includes Shared Data Center?	No
Total Cost	Capital cost US$35 million (Ministry of Finance estimate, Dec. 2009)
Est. Capital Cost per Public-Sector Employee	$157

The benchmark data for Greece and Armenia, which pertain to the case of a shared backbone network infrastructure only (no shared data center), indicate an estimated cost of US$176 and US$157 per public-sector employee respectively. However, it is believed that these figures may be somewhat underestimated, since in both cases the number of

participating employees may be overstated.[6] Accordingly, it seems reasonable to take the larger figure (US$176) as more representative. The benchmark data for New Zealand, which pertain to the case of a shared backbone infrastructure plus a shared data center, represent actual as opposed to estimated capital costs, and therefore the figure of US$245 per public-sector employee is believed to be particularly reliable. Because of the modest size of the New Zealand public sector, however, some economy of scale may be lost, in which case the figure could be somewhat overstated. If we take the figure at face value, it would be reasonable to assume that the incremental cost per employee for implementing a shared data center, in addition to a shared backbone, would be the difference between US$245 and US$176, or US$69. However, allowing for the possibility that the US$245 figure may be overstated, we will somewhat arbitrarily reduce the difference to US$60.

Extrapolating these data to Costa Rica, and assuming that 180,000 public-sector employees are covered in the first phase of the ICEC Project, we obtain the following estimates:

- Capital cost of backbone network infrastructure: (180,000 x $176) = US$31.68 million
- Capital cost of shared data center: (180,000 x $60) = US$10.8 million
- Total capital cost: US$42.48 million (rounded to US$42.5 million)

The figure of US$42.5 million agrees quite well with the STGD's own capital-cost estimate of US$40 million (see above, p. 20); although preliminary, the latter estimate was evidently arrived at via an entirely independent route.

Estimation of U.S. Export Potential

While the above exercise yields estimates for the capital cost of the two major components of the ICEC Project (shared backbone infrastructure and shared Data Center), it does not shed any light on the U.S. export potential in either case. For this purpose a separate analysis is needed. However, such an analysis immediately runs into difficulties, as a result of the fact that both of these components are currently conceptualized only at a very high level. In other situations, it might be possible to perform a "bottom-up" analysis, of the kind described in the previous section, on both components. In the present situation, there is simply no way to perform such an exercise, since the size, scope, configuration and functionality of the two components are essentially unknown.

Furthermore, given the complex nature of the ICEC Project, and the current uncertainty as to how the tendering process might be structured, it should be borne in mind that the actual implementation may not be carried out directly by the suppliers of the various systems and components, but rather by one or more lead contractors acting in the role of system integrator. (For example, there might be one lead contractor for the backbone

[6] In the case of Greece, only the educational sector has been excluded from the total; it is possible that other smaller sectors should be excluded as well, but no information on these is available. In the case of Armenia, in light of general public-sector employment trends, the total number of public-sector employees may have decreased since 2007, the last year for which figures are given.

connectivity component, and another one for the data center component.) In turn, the lead contractor can be expected to engage, on a sub-contractor basis, those suppliers who, in the lead contractor's judgment and experience, are best qualified to provide and implement the various sub-systems. If the lead contractor is a U.S. firm, the chosen suppliers will probably (but not necessarily) be preponderantly U.S. firms; conversely, if the lead contractor is a foreign company, the proportion of U.S. sub-contractors will probably (but not necessarily) be lower. Although this scenario can be described in general terms, its actual impact on U.S. export potential is impossible to quantify.

From a practical standpoint, however, the most relevant piece of information is the fact that the existing backbone network of the dominant national operator ICE has been supplied, virtually in its entirety, by Cisco and its partner firms. Furthermore, as already noted, Costa Rican law effectively mandates an exclusive role for ICE in any initiatives related to e-government, thus ensuring a major role for ICE as a supplier of backbone connectivity for the ICEC Project. Although the lead contractor / system integrator will certainly be chosen via an international competitive tender, a likely scenario is that either Cisco, or a lead contractor who will engage Cisco, will be selected. Based on general knowledge of Cisco's product lines and project implementation capabilities, it would appear that, in such case, Cisco and its partner firms should be able in principle to supply 100% of the systems, equipment and components required for the backbone network component of the ICEC Project. Even if the data-center component is excluded altogether – an unlikely prospect, given the fact that U.S.-based firms such as Sun, IBM, Oracle and Microsoft are well qualified and well positioned to supply the necessary data center hardware and software – the export potential of just the backbone network component, as estimated above, amounts to US$31.68 million.

However, the US$31.68 million figure should be adjusted to allow for the fact that equipment supplied by U.S.-based firms such as Cisco is not necessarily sourced directly from the U.S. Information supplied by Cisco indicates that, when core networking equipment such as multiplexers and routers is sourced from outside the U.S., manufacturing costs typically represent about 35% of the total cost of the equipment. In the opinion of the DM Contractor, it is reasonable to characterize the remaining 65% of the cost as representing the "U.S. content" of the equipment in question. If such reasoning is accepted, the U.S. export potential of the backbone network component can be estimated at ($31.68 million x .65), or approximately US$20.6 million. Given the fact that the Data Center component is excluded altogether from this calculation, it can be said that this figure represents a kind of "worst-case" estimate. If just 40% of the capital cost of the data center represented U.S. content, the figure of US$20.6 million would increase to US$25 million.

4. Potential U.S. Suppliers

Backbone Network Component

As already noted, Cisco is currently the principal of backbone networking systems and equipment to the dominant national Costa Rican operator ICE. Furthermore, Cisco is

reported to dominate 60–80% of the Local Area Networking market and an even higher percentage of the Wide Area Networking market in Costa Rica, as well as being strong in areas such as enterprise integration, unified communications and wireless networking. Cisco's existing customers include the Banco Central de Costa Rica and other major financial institutions and enterprises, and Cisco is reported to be involved in a number of technology and capacity-building initiatives with Costa Rican public-sector institutions. Accordingly, Cisco appears to be very well positioned to be a major player in the backbone network component of the ICEC Project.

At the same time, the opportunities afforded by this component do not appear to be limited exclusively to Cisco. For example, Lucent Technologies (now Alcatel-Lucent), has long been active in the country and has installed a base of 5ESS Central Office exchanges on behalf of ICE; these systems have been repeatedly expanded and complemented with new technology. Thus, in 2002, Lucent was awarded a US$29 million contract by ICE to provide wireless equipment to increase capacity and coverage of the existing fixed-line network; while in 2006 Lucent delivered an IP Multimedia Subsystem service architecture and a Multi-Protocol Label Switching (MPLS) solution, purportedly to offer next-generation voice and data services.

Shared Data Center Component

In the case of the data center component, participation of a wider range of U.S.-based companies, such as IBM, Sun, Microsoft and Oracle, is possible. All these firms have a strong sales presence in the public-sector market in Costa Rica, a fact confirmed in discussions or communications with representatives of these companies. Additional details are provided below.

- **IBM** has long been involved in the planning, design, implementation and operation of data centers, while at the same time gradually repositioning itself as a supplier of software and consulting services. In particular, IBM is a premier supplier of transaction processing software that is extensively used in data center applications. Furthermore, IBM has been present in Costa Rica since 2004, has some 1,200 employees in the country, and operates a major support center located in the free zone of Heredia.
- **Sun Microsystems** is a premier supplier of high-availability servers for commercial data center applications. In addition, Sun offers a range of support services intended to help customers strategize, design and build data centers that are optimized in terms of energy, space, and cost efficiency. For example, Sun can provide modular datacenter design concepts that can maximize space utilization and minimize operating costs, based on the specific environment and associated business needs.
- **Microsoft** has had a direct presence in Costa Rica since 2001. Like Cisco, Microsoft has been working extensively with Costa Rican public-sector institutions such as the Ministerio de Educación Pública (Ministry of Public Education, MEP), with which it has implemented a national certification program.
- **Oracle** has had a presence in Costa Rica since 1994, is reported to have 50 employees and to be actively marketing its E-Business Suite and Enterprise Resource Planning (ERP) solutions to large corporations and government institutions. Like IBM, Oracle is a major supplier of software used in data center applications.

Furthermore, all the companies concerned indicated, in some form or another, that they anticipated that the ICEC Project, and specifically its data center component, would be good for their business.

G. FOREIGN COMPETITION

In terms of the Costa Rican market, foreign competition generally, and in the ICT sector in particular, is a significant concern. One of the most visible projects currently under way in San José is the construction of a new national stadium, being financed 100% by China as a gift to the country. Chinese telecom manufacturers, including Huawei and ZTE, are said to be conducting aggressive sales/marketing operations in the newly liberalized telecom sector, although apparently they have yet to report major successes. In the area of electronic public procurement (EPP) – one of the other priority areas for STGD – Korea has evidently been able to persuade the GOCR of the merits of its approach, and STGD currently has a large joint Korean / Costa Rican team working on a government-wide EPP implementation (the so-called Merlink project). At a session of the Second Costa Rican Congress on e-Government, which the DM Contractor attended while in San José, the keynote speech on the important topic of e-learning was given by a representative of Samsung. Virtually all the representatives of U.S. firms with whom the DM Contractor spoke expressed concern about possible erosion of their market share, and some indicated that they would welcome a USTDA-sponsored TA to STGD as a potential means of forestalling further gains by foreign competitors.

More specifically, in the case of the ICEC Project, foreign competition is most likely to come from two sources: 1) the Business Solutions divisions of major European or Asian telecom operators; and 2) major foreign System Integrators / Service Providers. Typically, telecom operators would gravitate toward the Backbone Network component, while System Integrators would tend to opt for the Data Center component; but it is equally likely that firms of both types would seek to partner or form consortia in order to be able to bid on both components.

- **Telecom Operators:** This approach generally involves the Business Solutions arm of a large national or multi-national operator. In such cases, the suppliers of systems and equipment are generally those with which the operator already has long-standing and stable relationships; needless to say, European and Asian operators are generally inclined to prefer European and Asian suppliers respectively. For example, Detecon, the consulting arm of Deutsche Telekom, has been awarded a number of e-government-related contracts in European countries (notably Germany and Spain), and is generally an aggressive bidder on e-government-related projects such as the current Government Intranet initiative in Armenia described above. In a number of instances, Detecon has partnered or contracted with Siemens for implementation. Spain's Telefónica, active throughout Central and South America, is a supplier to e-government-related projects in Mexico and Sao Paulo State in Brazil. Similarly, Orange Business Services, the business services arm of France Telecom, has been engaged by the French government to roll out a secure government Intranet, and is pursuing other related projects in Francophone Africa and the Middle East. As for Asian operators, Korea Telecom is a

major supplier to Korea's e-government project; the role currently played by Korean firms in public-sector ICT projects in Costa Rica has already been noted.

- **System Integrators/Service Providers:** In this scenario, a large foreign system integrator or diversified service provider (who may also be an equipment manufacturer) typically establishes an exclusive relationship or partnership with a planned government intranet or similar development project. Examples that could be cited involve German-based Siemens, which is a supplier to a number of e-government-related projects in Germany (e.g., in the state of Hesse) and Huawei (China), which is notably aggressive in bidding on government-Intranet initiatives worldwide and (through arrangements with the Government of China and Chinese financial institutions) is able to offer particularly attractive financing terms. Much of Huawei's efforts in this area currently focus on Africa and lesser-developed countries (e.g., the National Backbone in Uganda), and, as noted above, Chinese telecom companies have had limited success to date in the Costa Rican market, but can be expected to step up their efforts now that the telecom sector has been liberalized.

In short, there is no lack of non-U.S.-based competition with extensive experience in both components of the ICEC Project, as well as with relevant experience in the Central/South American region.

H. IMPACT ON THE ENVIRONMENT

The recommended TA, whose principal focus is Information Technology and whose main activities involve technical assistance and consulting, is not expected to have any measurable environmental impact. To the extent that the resultant ICEC Project promotes greater efficiency in the public sector, for example by reducing the need for citizens to travel in order to present themselves in person at public-sector institutions, positive environmental impacts can be anticipated.

I. IMPACT ON U.S. LABOR

The "Impact on U.S. Labor" Statement reads as follows:

> "The Foreign Operations, Export Financing and Related Programs Appropriations legislation restricts U.S. foreign assistance from being used to provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area; (c) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; and (d) direct assistance for establishing

or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity."

There is nothing in the proposed Technical Assistance to indicate any likely breach of the above conditions.

J. QUALIFICATIONS

1. General Qualifications of Contractor

Please see Section 4 in the RFP

SECTION III

TERMS OF REFERENCE

TECHNICAL ASSISTANCE ON BEHALF OF THE SECRETARIA TECNICA DE GOBIERNO DIGITAL (STGD) OF COSTA RICA: PLANNING THE ICT INFRASTRUCTURE OF THE COSTA RICAN STATE (ICEC OR "GOVERNMENT INTRANET" PROJECT)

Please see Annex V in the RFP

SECTION III (cont'd)

Technical Assistance on Behalf of STGD
Proposed Budget

	In-Country Calendar Days	Compensable Days	Rate Base	Total
Project Manager	50	83	$1,400	$115,500
Telecom/Network Specialist	40	64	$1,000	$64,000
Data Center Planning/Design Specialist	30	62	$1,000	$61,500
Apps + Systems Integration Specialist	12	26	$1,000	$26,000
ICT Legal/Regulatory Specialist	13	16	$1,200	$19,200
ICT Business Planning Specialist	13	21	$1,000	$21,000
ICT Procurement Specialist	13	18	$1,000	$18,000
Local Support	N/A	70	$600	$41,700

	Quantity	Unit		
International Travel [1]	13	trips	$950	$12,350
Per Diem [2]	171	person-days	$234	$40,014
Local Transportation	171	person-days	$20	$3,420
DBA + Medevac Insurance				$4,990
Visas, Departure Tax and Related				$338
Interpretation/Translation				$8,000
Communications				$1,000
Report Production and Binding				$500

Notes:

(*) Labor rates for each specialist and/or sub-contractor contain no mark-up for holidays, vacation or sick-leave.
Compensable days equal days actually worked for each Consultant Team member.

(1) Assumptions: Three (3) round trips to San Jose, Costa Rica by Project Manager; Networking Specialist, and Data Center Planning/Design Specialist; one (1) round trip by remaining US-based specialists
Airfare shown is average airfare booked on US carrier for coach class

(2) Per diems are equal to total estimated in-country days of US Consultant Team. Per diem for San Jose, Costa Rica taken from US Department of State Web site: www.state.gov/m/a/als/prdm/

SECTION III (cont'd)
Technical Assistance o n Behalf of STGD

Activity	Combined Team Days	
	Total	*In-Country*
Task 1: Preliminary Info Request	4	0
Sub-Task 2a: Review Project Objectives and PIR	6	8
Sub-Task 2b: Info Gathering	55	51
Sub-Task 2c: Site Visits	30	25
Task 3: Survey: Grupo ICE	20	16
Sub-Task 4a: Connectivity Needs Anal/Req Def	27	0
Sub-Task 4b: Data Center Needs Anal/Req Def	32	0
Sub-Task 5a: Backbone High-Level Design	20	5
Sub-Task 5b: Data Center High-Level Design	22	5
Task 6: Legal and Regulatory Review	27	16
Task 7: Economic and Financial Analysis	22	4
Sub-Task 8a: Data Center Business Models	22	16
Sub-Task 8b: Structuring of Procurement	18	16
Sub-Task 8c: Potential US Suppliers	8	0
Task 9: Environmental Impact Assessment	11	0
Task 10: Analysis Host Country Developments	5	0
Task 11: Draft and Final Reports	31	9
Total Days	**359**	**171**

Activity	Combined Team Compensation	
	Labor	*Per Diem*
Task 1: Preliminary Info Request	$4,500	$0
Sub-Task 2a: Review Project Objectives and PIR	$5,600	$1,872
Sub-Task 2b: Info Gathering	$52,300	$11,934
Sub-Task 2c: Site Visits	$28,300	$5,850
Task 3: Survey: Grupo ICE	$20,000	$3,744
Sub-Task 4a: Connectivity Needs Anal/Req Def	$29,800	$0
Sub-Task 4b: Data Center Needs Anal/Req Def	$34,800	$0
Sub-Task 5a: Backbone High-Level Design	$22,000	$1,170
Sub-Task 5b: Data Center High-Level Design	$24,000	$1,170
Task 6: Legal and Regulatory Review	$23,800	$3,744
Task 7: Economic and Financial Analysis	$26,000	$936
Sub-Task 8a: Data Center Business Models	$21,200	$3,744
Sub-Task 8b: Structuring of Procurement	$18,800	$3,744
Sub-Task 8c: Potential US Suppliers	$8,400	$0
Task 9: Environmental Impact Assessment	$11,000	$0
Task 10: Analysis Host Country Developments	$7,000	$0
Task 11: Draft and Final Reports	$29,400	$2,106
Total Compensation	**$366,900**	**$40,014**

Total Labor+Per Diem

OTHER DIRECT COSTS	
International Travel	$12,350
Local Transportation	$3,420
DBA + Medevac Insurance	$4,990
Visas, Departure Tax and Related	$338
Interpretation/Translation	$8,000
Communications	$1,000
Report Production and Binding	$500
Total Other Direct Costs	**$30,598**
	$437,512

SECTION IV

SUMMARY OF ADDITIONAL MEETINGS AND PROJECT POSSIBILITIES

Besides the recommended Technical Assistance on behalf of the STGD, additional project possibilities in Costa Rica were reviewed and other meetings were held with interested parties, as described below.

1. SUPERINTENDENCIA DE TELECOMUNICACIONES (SUTEL)

As previously described (see Section 1), SUTEL is the recently established independent regulatory body for the telecommunications sector. The DM Contractor was tasked with following up a request for technical assistance that had been submitted by Carlos Raúl Gutiérrez, one of the three Comisionados of SUTEL, in March 2009. The request sought potential USTDA assistance in the following priority areas:

1. Review actual use and propose re-farming of spectrum so as to maximize the possibilities for new entrants / new wireless technologies
2. A cost study to estimate the cost of migrating existing equipment from analog to digital, as well as the cost of clearing certain spectrum bands in order to permit efficient use by both the incumbent ICE and new entrants
3. Development of a cost model for ICE's Reference Interconnection Offer (RIO) for last-mile connectivity
4. Elaboration of the contractual framework of new spectrum concessions to prequalified wireless/mobile companies interested in participating in spectrum auctions, with particular reference to the experiences of successful spectrum auctions in Honduras and Panama
5. Preparatory work on establishment of baseline metrics of the "digital divide" in Costa Rica, with a view to laying the groundwork for the establishment of the Universal Access Fund (FONATEL).

Prior to travel to Costa Rica, the DM Contractor became aware that the World Bank was providing certain technical assistance to SUTEL. The DM Contractor contacted Mr. Eloy Vidal of the World Bank, who provided the information that Area 3 above was covered by the World Bank assistance, while assistance in Area 4 was being provided separately by a Japanese firm. Mr. Vidal also expressed some doubt that SUTEL had full authority to undertake the Area 2 activities. Accordingly, it appeared that a fresh discussion needed to be initiated to SUTEL, to ascertain the current priorities and to ensure that there would be no overlap between a prospective USTDA-funded assistance and support that SUTEL was receiving, or would be receiving, from other quarters.

Unfortunately, despite making contact with Mr. Gutiérrez prior to the in-country portion of the DM, the DM Contractor was unable to arrange a face-to-face meeting with him. The DM Contractor was able to arrange a meeting on 20 October 2009 with George Miley, President of the Commission of SUTEL, and Maryliana Méndez, member of the Commission. It developed, however, that Mr. Miley and Ms. Méndez had not been adequately briefed as to the purpose of the meeting, so that they were unprepared to undertake a discussion of possible areas of USTDA assistance.

Having anticipated this possibility to some extent, the DM Contractor proposed a possible technical assistance unrelated to the above areas, which he judged to be of definite immediate

benefit to SUTEL, and potentially suitable for support by USTDA. The point of departure for the technical assistance in question is a particular provision of the 2008 *Ley General de Telecomunicaciones* (General Telecommunications Law, LGT). Broadly stated, the LGT stipulates that telecommunications tariffs are to be regulated until such time as SUTEL determines that there is sufficient competition in the relevant market to warrant their deregulation. This provision places substantial burdens on SUTEL, in particular as regards the following:

- Determination of what constitutes the appropriate "relevant market"
- Establishment of the level of competition in that market
- Establishment of whether the level of competition is such that deregulation is warranted (taking into consideration that different criteria might apply to different markets)
- Evaluation of the likely impact of such deregulation on end-user pricing.

This proposal was well received by Mr. Miley, who indicated that he intended to pursue it and would submit a formal letter-proposal to USTDA to that effect. Mr. Miley also indicated that the proposal would be forthcoming in approximately three weeks from the date of the meeting, corresponding to around 10 November 2009. As of this writing, the proposal has yet to be received.

2. STGD

It was noted in Section I (p. 7–8) that, in addition to the GoCR Connectivity Infrastructure ("Government Intranet") Project, STGD regards two other projects described in its Action Plan as major priorities, namely:

- GoCR Electronic Public Procurement (EPP) Project (Sistema Electrónico de Compras del Estado Costarricense, CostaricaCompr@s)
- GoCR E-Taxation and Revenue Management Project (Proyecto de Tributación Digital)

The DM Contractor inquired about the status of these projects as well. It developed that the EPP Project (new renamed Mer-link) is currently going forward with Korean assistance; while the E-Taxation and Revenue Management Project is not being actively pursued at the moment. Accordingly, the DM Contractor maintained a focus on the Connectivity Infrastructure Project.

3. ALTERNATIVE OPERATORS (WORLDCOM, REICO, JASEC)

Information on these alternative telecom operators was provided in Section I, p. 11. In seeking to identify additional project opportunities, the DM Contractor held meetings with representatives of all three operators, as follows:

- Worldcom: Valentin Horvilleur, General Manager (15 October 2009)
- REICO: Miguel Solís, General Manager (15 October 2009)
- JASEC: Oscar Meneses, General Manager (20 October 2009)

However, these meetings did not result in identifiable project opportunities. Worldcom gave no indication of wishing to seek outside assistance, and indeed the DM Contractor judged that the company had a clear focus on a well-defined niche market and was already exploiting that market quite successfully without outside support. REICO is oriented toward providing service in currently underserved or unserved areas of the country, and in the DM Contractor's judgment the company could play a useful role in supplementing ICE's reportedly spotty coverage of rural areas, but the current scale of REICO's operations is simply too small to warrant consideration (Mr. Solís indicated that an equipment procurement of around US$1 million is being contemplated in the future). Finally, the interview with Mr. Meneses of JASEC revealed that JASEC is on the verge of launching a tender for the supply of a basic telecommunications platform which JASEC will use to deliver the so-called "triple play" of services (Internet access, video and voice). In other words, the company's plans to enter the telecom business are already well advanced, and the time for assisting JASEC with the formulation of those plans and/or the procurement of the corresponding equipment has already passed.

4. MOTOROLA

A meeting was held with Magdalena Barrantes, General Manager of Motorola Costa Rica, on 20 October 2009. Ms. Barrantes indicated that Motorola is active in various areas of the Costa Rican ICT market, including mobile handsets, cable modems and trunking systems.[1] In particular, Motorola recently won a US$20 million contract to install an iDEN trunking system for ICE, the national telecom operator, for the company's internal use. Furthermore, according to Ms. Barrantes, ICE is interested in extending use of the system to other public-sector entities, but does not have a clear concept of how to do this, or a corresponding business model. At the same time, the Ministerio de Seguridad Pública (Ministry of Public Security, MSP) has a number of important communications needs which its current small and antiquated analog system cannot handle, in particular the following:

- An encrypted system for use in connection with some of the MSP's sensitive operations, including combating drug trafficking (the current analog system operates "in clear" and transmissions can be picked up by of-the-shelf scanner equipment)
- A mobile voice system to supplement a US$20 million video surveillance project that is currently being deployed on a nationwide scale, with some 3000 cameras being installed in the first phase. A problem with the video system is that it is entirely passive; for example, it can record events such as assaults or robberies but does not provide a mechanism for response or intervention (e.g., alerting the nearest police unit by radio). Additionally, questions have been raised as to whether the ICE-supplied wireless backbone system (based on the WiMAX platform) has adequate capacity and bandwidth to support a full-blown implementation of the video surveillance application.

[1] Trunking systems are shared-use mobile systems of the kind commonly used by emergency services, vehicle fleets, etc. The Motorola iDEN platform provides a sophisticated digital trunking solution that supports a number of advanced features, including encryption, messaging, interconnection to the public switched network, configurable talk groups, etc.

However, given the fact that the ICE contract was awarded only quite recently, Motorola has not yet engaged the MSP in substantive discussions regarding the possibility that the new ICE trunking system could be adapted for the MSP's purposes. Nonetheless, both of the situations described above would appear to offer, in principle, future prospects for USTDA-funded technical assistance projects. The DM Contractor recommended that Motorola Costa Rica keep the Foreign Commercial Service of the U.S. Embassy, and also USTDA itself, apprised of further developments; he also recommends that USTDA monitor these situations and revisit them as appropriate.

5. CISCO

Cisco Costa Rica has a keen interest in the GOCR Connectivity Infrastructure ("Government Intranet") Project, in particular because Cisco is a major supplier of backbone networking equipment to ICE, and accordingly hopes to benefit from any major initiatives that would be likely to expand the configuration, coverage or capacity of ICE's backbone facilities. At the same time, Cisco has no interest in carrying out a Technical Assistance on behalf of the STGD, along the lines of the one proposed here, since under Costa Rican law Cisco would then be barred from further participation in any ensuing project work.

The DM Contractor met with Cisco representatives, including Ravi Lingam, Operations Director, and Enrique Brockmann, Account Manager (Public Sector), on 16 October 2009. The meeting provided the DM Contractor with useful perspective and background on ICE's involvement in the Government Intranet Project, as well as information on ICE's operations and financial capabilities.

SECTION V

GENERAL CONTACT LIST

Last Name	First Name	Title	Organization	Address	Phone/Fax/E-mail
SMITH	Bryan	Senior Commercial Officer	US Embassy San José	Calle 120 Avenida 0, Pavas, San José	(506) 2519-2293, 2207 Bryan.Smith@mail.doc.gov
KISSEL	Mark	Chief, Economic Section	US Embassy San José	Calle 120 Avenida 0, Pavas, San José	(506) 2519-2293, 2207 KisselME@state.gov
McGEE	Michael	Regional Commercial Counselor CA, Commercial Service	US Embassy San Salvador	Final Boulevard Santa Elena, Antiguo Cuscatlán, La Libertad	(503) 2501-2999 Michael.McGee@mail.doc.gov
CAMBRONERO	Victor	Foreign Commercial Service	US Embassy San José	Calle 120 Avenida 0, Pavas, San José	(506) 2519-2293, 2207 (506) 8393 3619 cell Victor.Cambronero@mail.doc.gov
HINCKLEY	Catherine	Telecommunications Office	US Trade Representative	600 17th Street N.W. Washington, DC 20508	(202) 395-9539 Catherine_Hinckley@ustr.eop.gov
VIDAL	Eloy	Regional Telecom Coordinator, Global ICT Department	World Bank	1818 H Street N.W. Washington, DC 20433	(202) 458-2694 evidal@worldbank.org
GALLARDO	Roberto	Minister	Ministerio de Planificación Nacional	De Autos Subarú 200 mts. Al Norte, Barrio Dent, San Pedro de Montes de Oca	(506) 2281-2700 contactenos@mideplan.go.cr
AVENDAÑO Rivera	Alicia	Directora, División Gobierno Digital	Secretaría Técnica de Gobierno Digital (STGD)	Edificio Interbolsa, 2do Piso, frente al Hotel Crown Plaza, San José	(506) 2256 1500, 1559 (506) 8338 0345 cell alicia.avendano@gobierno-digital.go.cr

ARAYA Fernandez	Eduardo	Consultor	Secretaría Técnica de Gobierno Digital (STGD)	Edificio Interbolsa, 2do Piso, frente al Hotel Crown Plaza, San José	(506) 2256 1500 (506) 8816 9510 cell earaya@gobierno-digital.go.cr
HIDALGO	Norma	Consultora	Secretaría Técnica de Gobierno Digital (STGD)	Edificio Interbolsa, 2do Piso, frente al Hotel Crown Plaza, San José	(506) 2220 9837 (506) 8899 7061 cell Norma.hidalgo@gobierno-digital.go.cr
MORA Sánchez	Adrián	Abogado	Secretaría Técnica de Gobierno Digital (STGD)	Edificio Interbolsa, 2do Piso, frente al Hotel Crown Plaza, San José	(506) 2220 7713 Adrian.mora@gobierno-digital.go.cr
MORALES Ureña	Laura	Subgerente, Dirección de Tecnologías de Información y Comunicaciones	Caja Costarricense de Seguro Social, Gerencia División Financiera	Edificio Jenaro Valverde, piso M, Avenida 4, entre Calles 5 y 7	(506) 2295-2027, 2023 lmorales@ccss.sa.cr
MILEY Rojas	George	Presidente / Miembro del Consejo	Subsecretaría de Telecomunicaciones (SUTEL)	Edificio ARESEP, De la Controlaria 400 oeste, San José	(506) 2220 0102 george.miley@sutel.go.cr
GUTIÉRREZ Gutierrez	Carlos Raúl	Miembro del Consejo	Subsecretaría de Telecomunicaciones (SUTEL)	Edificio ARESEP, De la Controlaria 400 oeste, San José	(506) 2543 0503 (506) 8335 2487 cell carlosraul.gutierrez@aresep.go.cr
MENDEZ	Maryleana	Miembro del Consejo	Subsecretaría de Telecomunicaciones (SUTEL)	Edificio ARESEP, De la Controlaria 400 oeste, San José	(506) 2220 0102 maryleana.mendez@sutel.go.cr
VILLALOBOS	Vilma	Corporate Affairs	Microsoft Costa Rica	Plaza Roble, Edificio El Patio, piso 2, Frente a Multiplaza, Guachipelin, Escazú	(506) 2201-1185 Vilma.Villalobos@microsoft.com
BARRANTES	Magdalena	General Manager	Motorola Costa Rica	Plaza Roble, Edificio El Portico, piso 1, Frente a Multiplaza, Guachipelin, Escazú	(506) 2201-1480 amb103@motorola.com

HASTINGS	Casey (Ms.)	Director, Global Gov't Affairs	Motorola	Washington, DC	(202) 279-1424 casey.hastings@motorola.com
BERRUECOS	Jose	General Manager/ Operations Director, Central America & Caribbean	Cisco	8200 NW 41st Street, Suite 400 Miami, FL 33166	(305) 513-2509 (305) 753-1185 cell jberruec@cisco.com
BROCKMANN	Enrique	Account Manager	Cisco Costa Rica	Plaza Roble, Edificio Los Balcones, 1er nivel, Escazú	(506) 2201-3746 (506) 8843-4522 cell ebrockma@cisco.com
LINGAM	Ravi	Operations Director	Cisco	Plaza Roble, Edificio Los Balcones, 1er nivel, Escazú	(506) 2201-3600 rlingam@cisco.com
CABOT	Ned	Bus Devel Manager, Public Sector	Cisco	1300 Pennsylvania Avenue N.W., Washington, DC 20004	(202) 222-8368 ncabot@cisco.com
HORVILLEUR	Valentin	General Manager	Worldcom de Costa Rica	Oficentro La Sabana, Edificio No. 3, 2o piso, San José	(506) 2296-9216 valentin@worldcom.cr
SOLIS	Miguel	General Manager	Redes Inalámbricas de CR (REICO)	Carretera 209, 700 metros sur del Parque de la Paz, Santa Marta, San José	(506) 2227-4980 msolis@reicocr.com
MORA	Alexander	President	Cámara de Tecnologías de Información y Comunicación (CAMTIC)	De la iglesia de San Pedro de Montes de Oca 600 Sur y 77 Oeste, Edificio Colina Hermanos, 1 piso, San José (CAMTIC) Barrio Escalante, de la Rotonda de la Bandera 800 oeste y 25 norte, edificio 4 pisos TecApro/BT Alliance (TecApro)	(506) 2283-2305 (CAMTIC) (506) 2234-3410 (TecApro) a.mora@tecapro.com
MENESES Quesada	Oscar	General Manager	Junta Administrativa del Servicio Eléctrico de Cartago (JASEC)	Avenida 1 Calles 3 y 5, Cartago	(506) 2550 6813 omeneses@jasec.co.cr

CAMPOS Avila	Juan Manuel	Consultant	Ciber Regulación Consultores	Oficentro La Sabana Torre 4 planta baja, San José	(506) 2296 7434 (506) 8842 6812 cell juan.m.campos@ciber-regulacion.co.cr

ANNEX 3

USTDA NATIONALITY REQUIREMENTS

U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

USTDA GRANT AGREEMENT, INCLUDING MANDATORY CONTRACT CLAUSES

Costa Rica 2010 560274

GRANT AGREEMENT

NY JF FS JJ MB PD RF

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA"), and the Government of Costa Rica, acting through the Secretaría Técnica de Gobierno Digital ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US$438,000 ("USTDA Grant") to fund the cost of goods and services required for technical assistance ("TA") on the proposed Government ICT Connectivity Infrastructure Project ("Project") in Costa Rica ("Host Country").

LZ PD JW

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov).* Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the TA. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the TA. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the TA. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to

such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. TA Schedule

(A) TA Completion Date

The completion date for the TA, which is December 31, 2011, is the date by which the parties estimate that the TA will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source, and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source, and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees, or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees, or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the TA and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U.S. Ambassador to Host Country or USTDA and Grantee will be represented by the Director of the Secretaría Técnica de Gobierno Digital. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable, or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Secretaría Técnica de Gobierno Digital
Altos del Supermercado Mas x Menos
Antiguo Yahoan frente al Hotel Corobici Crowne Plaza
Sabana – San José
COSTA RICA

Phone: (506) 2256-1500
Fax: (506) 2256-1559

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:	1110/111001
Activity No.:	2010-51027A
Reservation No.:	2010510028
Grant No.:	GH2010510006

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this TA, USTDA seeks to promote the Project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods, and services needed for Project implementation.

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IN WITNESS WHEREOF, the Government of the United States of America and the Government of Costa Rica, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

By: _____

Date: August 31, 2010

Witnessed:

By: _____

For the Government of Costa Rica

By: _____

Date: August 31, 2010.

Witnessed:

By: _____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

Objective

The objective of the technical assistance ("TA") for the Government ICT Connectivity Infrastructure Project ("Project") in Costa Rica is to create a national e-government architecture in Costa Rica. This technical assistance will provide the Secretaría Técnica de Gobierno Digital ("Grantee") with a roadmap and guidelines to support the implementation of a government-wide backbone connectivity network and a shared data center for the Government of Costa Rica ("GOCR").

General Considerations for Deliverables and Documents

The Contractor shall undertake a quality control review process, including a technical and editorial review, of all deliverables and documents submitted to the Grantee to ensure readability, accuracy, and consistency. The interim deliverables specified in these Terms of Reference shall serve to keep the Grantee informed about the Contractor's work on the TA and to ensure that the Contractor's findings are acceptable to the Grantee before critical decisions are made on the TA. The Contractor shall submit monthly progress reports to the Grantee. The Contractor shall submit all deliverables and documents to the Grantee in English and Spanish.

Activities

Task 1: Preliminary Information Request and Background Research

In anticipation of the Contractor's first trip to Costa Rica, the Contractor shall develop and submit to the Grantee a preliminary information request, focusing on the selected GOCR entities that are anticipated by the Grantee to participate in the initial phase of the Project. The preliminary information request is expected to cover the following for each GOCR entity: entity name (and name of any participating subsidiary or affiliate entities); number of employees; number of dedicated information and communications technologies ("ICT") personnel; number, type, and size of locations around the country; existing ICT infrastructure, applications, and transaction volumes; ICT-related spend levels; anticipated expansion plans and future developments.

Task 2: Survey of Current Situation: Institutional End-Users

Subtask 2a: Review of Project objectives and baseline data from the preliminary information request

The Contractor shall travel to Costa Rica to meet with the Grantee to review and discuss the Project's objectives, and the logistics and practicalities of the

performance of the TA. The Contractor and the Grantee shall review and agree upon any data (additional to the data obtained in Task 1) that is to be made available during the TA in order to ensure its satisfactory progress, identify how such data shall be collected, and the role that the Grantee will play in terms of its collection. The Contractor and the Grantee shall develop a schedule for the collection of such data. The Contractor shall also become familiar with the Grantee's organization, functions, responsibilities, capabilities, and current profile of activities related to the Project.

Subtask 2b: Information gathering from the selected GOCR entities

The Contractor shall conduct structured interviews with the selected GOCR entities. It is anticipated that the interview will be conducted with qualified senior ICT professionals at these entities, although the interviewees may include (in consultation with the Grantee and by mutual agreement) representatives from academia, private sector companies, ICT associations, or other organizations that would be in a position to provide additional relevant input and perspective. The objective of the interviews is to gather baseline data regarding current public sector ICT infrastructure and facilities (with a particular focus on voice and data networks and data center/data processing operations), current and foreseeable applications, current and projected transaction volumes, backup/disaster recovery requirements, workflow processes, service delivery and interfaces to the general public, requirements for interfacing/integration with other public sector institutions, existing IT staffing and human resources, and current and projected future spend levels for ICT services and associated support. The Contractor shall identify and describe any problems, shortcomings, or inefficiencies in any of these areas.

The Contractor and the Grantee shall agree on the list of interviewees (and alternate interviewees should they be necessary) and on the general outline and areas of emphasis of the interview schedule. The number of interviews shall not exceed twenty (20), and it is anticipated that most if not all of the interviews will take place in San José and its immediate environs. The Grantee shall undertake reasonable efforts to assist the Contractor to facilitate the interviews. To the extent appropriate and practicable (for instance, when ICT facilities are situated at or close to the interview location), interviews shall be accompanied by on-site inspections of such facilities.

Subtask 2c: Site visits

While most GOCR entities have their administrative headquarters in San José, many GOCR entities also have extensive operations and facilities throughout the country, including in regions and locations where connectivity and data collection and processing options are more restricted than in San José. Accordingly, the Contractor shall conduct information gathering visits to sites outside of San José in order to gauge the degree of variation of these options and the constraints that apply to such locations. Such visits shall include, to the extent practicable, structured interviews

similar to those described in Subtask 2b, which may be modified to accommodate to local conditions. The number of such site visits shall be subject to mutual agreement between the Contractor and the Grantee, but shall not exceed ten (10). Some number of these site visits may take place in or near San José if not already covered in Subtask 2b. The Grantee shall undertake reasonable efforts to assist the Contractor in arranging site visits.

Task 3: Survey of Current Situation: Grupo ICE

Given that Grupo ICE (Instituto Costarricense de Electricidad) is Costa Rica's state-owned telecommunications incumbent, the Contractor shall gather, systematize, and review the best available and most current data regarding Grupo ICE's backbone and wide-area networking infrastructure, technology platforms, geographical coverage, service offerings, service and coverage expansion plans, rates and tariffs (with particular attention to bandwidth/connectivity pricing for public sector end-users), provisioning times, reliability/availability/quality-of-service indicators, and large-scale project undertakings and management capabilities. The Contractor shall also conduct interviews with representatives of Grupo ICE that are engaged in service provisioning to the public sector or that have knowledge of the Project in order to determine the role that Grupo ICE could play in the Project and how it would implement that role. Particular attention shall be paid to expansion plans, new service initiatives, or pricing changes that may potentially benefit the Project. The Grantee shall undertake reasonable efforts to support the Contractor in carrying out this task.

Interim Deliverable #1:
The Contractor shall prepare and submit an inception report to the Grantee detailing the findings from Task 1, Task 2, and Task 3. The inception report shall include, but may not be limited to, the interviews and meetings conducted, sites visited, progress in collecting data, an updated work schedule, any problems encountered or foreseen, and any initial observations.

Task 4: Analysis of Baseline Data

Subtask 4a: Connectivity needs assessment and requirements definition

Based on the baseline information gathered and the findings from the previous tasks, the Contractor shall conduct a connectivity needs assessment and requirements definition, with particular reference to the selected GOCR entities that are part of the Project. It is anticipated that this connectivity needs assessment and requirements definition will include a gap analysis (understood to mean an analysis of the discrepancy between the as-is state of a particular GOCR entity and the future should-be state that will enable the GOCR entity in question to fully accommodate, participate in, and take advantage of the Project's shared backbone connectivity infrastructure). The analysis shall be oriented toward determining what existing

connectivity infrastructure needs to be modified or replaced, as well as what infrastructure needs to be acquired or developed.

Subtask 4b: Data center needs assessment and requirements definition

Based on the baseline information gathered and the findings from the previous tasks, the Contractor shall conduct a data center needs assessment and requirements definition, with particular reference to the selected GOCR entities that are part of the Project. It is anticipated that the data center needs assessment and requirements definition will include a gap analysis (understood to mean an analysis of the discrepancy between the as-is state of a particular GOCR entity and the future should-be state that will enable the GOCR entity in question to fully accommodate, participate in, and take advantage of the Project's shared data center infrastructure). The analysis shall be oriented toward determining what existing ICT-related infrastructure and facilities need to be modified or replaced, as well as what infrastructure needs to be acquired or developed.

Interim Deliverable #2:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 4, covering the connectivity and data center needs assessment and requirements definition as described above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 5: High-Level Design, Architecture, and Functional Specifications

Subtask 5a: High-Level Design, Topology, and Functional Specifications for Shared Backbone Connectivity

The Contractor shall develop a high-level design, architecture, and functional specifications for shared backbone connectivity for the selected GOCR entities, including, to the extent feasible, allowance for expansion and scaling in response to both the evolving ICT requirements of the selected GOCR entities, as well as the future inclusion of other GOCR entities.

When developing a high-level design, architecture, and functional specifications for shared backbone connectivity, the Contractor shall address the following requirements, at a minimum:

- *Backbone*: The Contractor shall design a fully redundant backbone throughout its coverage area, entirely fiber optic infrastructure, multiprotocol label switching ("MPLS") platform, Internet Protocol ("IP")-

based, capable of supporting high-speed voice/data transport and switching, quality of service, and layer-2 and layer-3 virtual private networks ("VPNs").

- *Access Points*: The Contractor shall develop a best-estimate listing of the major cities and towns where access points could be located to provide the maximum feasible number of locations of the selected GOCR entities with adequate access to the backbone, together with pertinent supporting information (such as the lack of Grupo ICE coverage in a given location and possible alternatives). To the extent practicable, the access points may be differentiated in some manner (even at the level of small, medium, and large). Exact siting of the access points is outside the scope of this subtask.
- *Basic Services*: The Contractor shall identify necessary or recommended basic services, which may include, but are not necessarily limited to, all-"VoIP" telephony within the environment of the connected GOCR entities, flexible data service bandwidth and provisioning, Internet access, security/firewalling, and the ability to configure secure VPNs over the Internet.
- *Support Services*: The Contractor shall identify necessary or recommended support services, which may include, but are not necessarily limited to, a centralized network operations center, centralized help desk, and unified billing.
- *Service Levels*: The Contractor shall identify and describe generic service level requirements, which may include, but are not necessarily limited to, availability/reliability/quality/provisioning/fault response targets, service level agreements, and penalties for noncompliance.
- *Equipment*: The Contractor shall develop a list of the types and features of customer premise equipment that will be required, together with general principles applying to the provisioning of such equipment (such as equipment to be furnished as part of the service, under defined payment, depreciation, residual-value, and buyout conditions).

Subtask 5b: High-Level Design, Architecture, and Functional Specifications for Shared Data Center

Understanding that public sector data acquisition, processing, and storage operations need to be hosted in data centers that meet rigorous operational requirements and industry-standard design principles, the most important of which are as follows:

- Stringent construction standards, including earthquake-proofing if the data center is located in a zone of seismic activity;
- Controlled access and physical and software-based security systems (often multi-layered);
- Redundant and uninterruptible electric power supply, with backup generators and battery systems as necessary;
- Temperature and humidity control;
- Robust and redundant internal and external connectivity arrangement;

- Suitable equipment housing facilities and cabling arrangements;
- The necessary computing environment (such as high-performance servers, storage devices, and backup facilities);
- Ability to guarantee specified performance and service targets;
- Ability to accommodate future expansion and growth; and
- Adequate management, supervisory, and operational personnel.

Taking into account the above requirements, the Contractor shall:

- Develop high-level specifications regarding the architecture and design of the shared data center;
- Identify necessary or recommended support services, which may include, but are not necessarily limited to, a centralized network operations center, centralized help desk, and unified billing;
- Identify and describe generic service level requirements, which may include, but are not necessarily limited to, availability/reliability/quality/provisioning/fault response targets, service level agreements, and penalties for noncompliance; and
- Develop general estimates of foreseeable equipment needs and required capacity.

Interim Deliverable #3:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 5, covering the high-level design, architecture, and functional specifications for both the shared backbone connectivity and the shared data center components of the Project as described above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 6: Legal and Regulatory Review

The Contractor shall conduct a legal and regulatory review for the purpose of anticipating any potential impediments to Project implementation. The legal and regulatory review is expected to focus on the following:

- The Grantee's charter, applicable regulations, and relationship to Grupo ICE;
- Grupo ICE's legal position for implementing e-government projects (as stipulated by Law 8860) and its potential implications for the Project (for example, cases where Grupo ICE is unable to provide connectivity but an alternate source is available);
- Procurement rules and regulations applicable to the public sector, and implications for the structuring of Project-related procurements (refer to Task 8 for additional guidance); and

- Laws and regulations that may impact the business models of the shared data center (refer to Task 8 for additional guidance).

Interim Deliverable #4:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 6.

Task 7: Economic and Financial Analysis

The Contractor shall prepare an economic and financial analysis of the Project. The principal objectives of the economic and financial analysis are as follows:

- To establish, based on the available data and reasonable inferences therefrom, the current levels of ICT-related expenditure of the selected GOCR entities, with particular reference to spending levels for connectivity and data center operations (including staffing and support-related costs);
- To estimate, for planning and budgetary purposes, the cost of Project implementation and ongoing operation of the Project's shared backbone connectivity infrastructure and shared data center operations;
- To estimate, for planning and budgetary purposes, the anticipated cost savings that will accrue to the selected GOCR entities over a medium- to long-term time horizon (such as 5 to 7 years); and
- To develop order-of-magnitude trending estimates, with reference to anticipated future expansion of the Project and to likely future decreases in the cost of bandwidth and services.

The Contractor shall identify a range of possible financing options, which may include, but are not necessarily limited to, the following (or a combination of the following):

- Self-financing by the GOCR;
- Assistance from the World Bank, Inter-American Development Bank ("IDB"), or other multilateral/international/regional financial institutions; and
- Vendor/implementer financing (supported by, for example, export credits from agencies such as the Export-Import Bank of the United States).

Since the financial analysis is not anticipated to cover the financial resources or means of Grupo ICE, the principal focus of the financial analysis is the shared data center component of the Project. The financial analysis shall be carried out in coordination with Subtask 8a below.

Interim Deliverable #5:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 7, covering the economic and financial analysis as described

above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee may proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 8: Project Preparation and Structuring

Subtask 8a: Business models for the shared data center

The Contractor shall conduct a high-level review and analysis of business models applicable to the implementation and ongoing operation of the shared data center. Such business models may include, but are not necessarily limited to, Build-Own-Operate, Build-Own-Operate-Transfer, Build-Operate-Transfer, and some type of public-private partnership. The Contractor shall recommend a preferred business model, together with supporting rationale, listing of alternatives, and discussion of the benefits and risks of each alternative. The Contractor shall take into account any findings from the financial analysis undertaken in Task 7.

Subtask 8b: Structuring of procurement

Based on the findings from Task 6, the Contractor shall advise the Grantee on procurement options and alternatives applicable to both the shared backbone connectivity and the shared data center components of the Project. Depending on the Task 6 findings, these may involve, but are not necessarily limited to:

- Single procurement versus multiple procurements;
- Single-stage procurement(s);
- Two-stage procurement(s) with prequalification;
- Non-binding request(s) for information followed by request(s) for proposals;
- Turnkey implementation(s) versus other type of implementation(s); and
- Ancillary activities (such as advertisement/notification procedures and bidders conferences).

Subtask 8c: Prospective U.S. sources of supply

The Contractor shall identify prospective U.S. suppliers of equipment, systems, and solutions for the Project in accordance with Clause I of Annex II of the Grant Agreement. These may include, but are not necessarily limited to, the following:

- Backbone networking hardware and software (such as multiplexers, cross-connects, routers, switches, and access devices);
- Data center equipment and systems; and
- Data center implementation, provisioning, and support services.

Interim Deliverable #6:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 8. The Contractor shall submit five (5) copies of a draft

version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 9: Environmental Impact Assessment

The Contractor shall conduct a preliminary review of the Project's environmental impact with reference to local requirements and those of multilateral development banks (such as the World Bank and IDB). This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment in anticipation of the Project moving forward to the implementation stage. In particular, the Contractor shall identify any steps that the Grantee or other interested parties will need to undertake subsequent to the completion of the TA and prior to Project implementation.

Task 10: Developmental Impact Assessment

For the benefit of those interested in the Project, the Contractor shall assess the development benefits associated with the Project and the methodology for measuring those benefits. The assessment shall include examples of the development benefits that would be expected in the Host Country if the Project is implemented as outlined in the TA. The Contractor shall focus on examples from the categories listed below and shall develop a methodology for assessing these impacts over time. The Contractor shall only list benefits in the categories that are applicable to the Project. The categories to be considered are as follows:

- *Infrastructure*: How the TA will result in improvements to or increased investment in infrastructure (both direct and indirect).
- *Human Capacity Building*: Skills development or additional employment that will be generated within the Grantee or within the selected GOCR entities.
- *Technology Transfer and Productivity Improvement*: Identification of new recommended technologies deployed in conjunction with the Project, and specific technology or knowledge transfer that will take place.
- *Market-Oriented Reform*: Identification of any market-oriented reforms that will be achieved as a result of the TA, which could include improved competition, better market entry to new investment, or more equitable consumer pricing policies.
- *Other*: Any other developmental benefits of the Project, including any spin-off or demonstration effects.

Interim Deliverable #7:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 9 and Task 10.

Task 11: Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be prepared in English and Spanish.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

(4) The Grantee shall be responsible for all procurement-related final decisions.

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Government of Costa Rica acting through the Secretaría Técnica de Gobierno Digital ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform technical assistance ("TA") for the Government ICT Connectivity Infrastructure Project ("Project") in Costa Rica ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to

these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source, and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source, and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory

provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client."

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to

termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available

for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, and USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

> "This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

> "The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business

name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone, and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. TA Schedule

(1) TA Completion Date

The completion date for the TA, which is December 31, 2011, is the date by which the parties estimate that the TA will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract,

including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:
Appropriation No.: 1110/111001
Activity No.: 2010-51027A
Reservation No.: 2010510028
Grant No.: GH2010510006

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees, or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees, or other levies.

ANNEX 5

TERMS OF REFERENCE
(FROM USTDA GRANT AGREEMENT)

Annex I

Terms of Reference

Objective

The objective of the technical assistance ("TA") for the Government ICT Connectivity Infrastructure Project ("Project") in Costa Rica is to create a national e-government architecture in Costa Rica. This technical assistance will provide the Secretaría Técnica de Gobierno Digital ("Grantee") with a roadmap and guidelines to support the implementation of a government-wide backbone connectivity network and a shared data center for the Government of Costa Rica ("GOCR").

General Considerations for Deliverables and Documents

The Contractor shall undertake a quality control review process, including a technical and editorial review, of all deliverables and documents submitted to the Grantee to ensure readability, accuracy, and consistency. The interim deliverables specified in these Terms of Reference shall serve to keep the Grantee informed about the Contractor's work on the TA and to ensure that the Contractor's findings are acceptable to the Grantee before critical decisions are made on the TA. The Contractor shall submit monthly progress reports to the Grantee. The Contractor shall submit all deliverables and documents to the Grantee in English and Spanish.

Activities

Task 1: Preliminary Information Request and Background Research

In anticipation of the Contractor's first trip to Costa Rica, the Contractor shall develop and submit to the Grantee a preliminary information request, focusing on the selected GOCR entities that are anticipated by the Grantee to participate in the initial phase of the Project. The preliminary information request is expected to cover the following for each GOCR entity: entity name (and name of any participating subsidiary or affiliate entities); number of employees; number of dedicated information and communications technologies ("ICT") personnel; number, type, and size of locations around the country; existing ICT infrastructure, applications, and transaction volumes; ICT-related spend levels; anticipated expansion plans and future developments.

Task 2: Survey of Current Situation: Institutional End-Users

Subtask 2a: Review of Project objectives and baseline data from the preliminary information request

The Contractor shall travel to Costa Rica to meet with the Grantee to review and discuss the Project's objectives, and the logistics and practicalities of the

performance of the TA. The Contractor and the Grantee shall review and agree upon any data (additional to the data obtained in Task 1) that is to be made available during the TA in order to ensure its satisfactory progress, identify how such data shall be collected, and the role that the Grantee will play in terms of its collection. The Contractor and the Grantee shall develop a schedule for the collection of such data. The Contractor shall also become familiar with the Grantee's organization, functions, responsibilities, capabilities, and current profile of activities related to the Project.

Subtask 2b: Information gathering from the selected GOCR entities

The Contractor shall conduct structured interviews with the selected GOCR entities. It is anticipated that the interview will be conducted with qualified senior ICT professionals at these entities, although the interviewees may include (in consultation with the Grantee and by mutual agreement) representatives from academia, private sector companies, ICT associations, or other organizations that would be in a position to provide additional relevant input and perspective. The objective of the interviews is to gather baseline data regarding current public sector ICT infrastructure and facilities (with a particular focus on voice and data networks and data center/data processing operations), current and foreseeable applications, current and projected transaction volumes, backup/disaster recovery requirements, workflow processes, service delivery and interfaces to the general public, requirements for interfacing/integration with other public sector institutions, existing IT staffing and human resources, and current and projected future spend levels for ICT services and associated support. The Contractor shall identify and describe any problems, shortcomings, or inefficiencies in any of these areas.

The Contractor and the Grantee shall agree on the list of interviewees (and alternate interviewees should they be necessary) and on the general outline and areas of emphasis of the interview schedule. The number of interviews shall not exceed twenty (20), and it is anticipated that most if not all of the interviews will take place in San José and its immediate environs. The Grantee shall undertake reasonable efforts to assist the Contractor to facilitate the interviews. To the extent appropriate and practicable (for instance, when ICT facilities are situated at or close to the interview location), interviews shall be accompanied by on-site inspections of such facilities.

Subtask 2c: Site visits

While most GOCR entities have their administrative headquarters in San José, many GOCR entities also have extensive operations and facilities throughout the country, including in regions and locations where connectivity and data collection and processing options are more restricted than in San José. Accordingly, the Contractor shall conduct information gathering visits to sites outside of San José in order to gauge the degree of variation of these options and the constraints that apply to such locations. Such visits shall include, to the extent practicable, structured interviews

similar to those described in Subtask 2b, which may be modified to accommodate to local conditions. The number of such site visits shall be subject to mutual agreement between the Contractor and the Grantee, but shall not exceed ten (10). Some number of these site visits may take place in or near San José if not already covered in Subtask 2b. The Grantee shall undertake reasonable efforts to assist the Contractor in arranging site visits.

Task 3: Survey of Current Situation: Grupo ICE

Given that Grupo ICE (Instituto Costarricense de Electricidad) is Costa Rica's state-owned telecommunications incumbent, the Contractor shall gather, systematize, and review the best available and most current data regarding Grupo ICE's backbone and wide-area networking infrastructure, technology platforms, geographical coverage, service offerings, service and coverage expansion plans, rates and tariffs (with particular attention to bandwidth/connectivity pricing for public sector end-users), provisioning times, reliability/availability/quality-of-service indicators, and large-scale project undertakings and management capabilities. The Contractor shall also conduct interviews with representatives of Grupo ICE that are engaged in service provisioning to the public sector or that have knowledge of the Project in order to determine the role that Grupo ICE could play in the Project and how it would implement that role. Particular attention shall be paid to expansion plans, new service initiatives, or pricing changes that may potentially benefit the Project. The Grantee shall undertake reasonable efforts to support the Contractor in carrying out this task.

Interim Deliverable #1:
The Contractor shall prepare and submit an inception report to the Grantee detailing the findings from Task 1, Task 2, and Task 3. The inception report shall include, but may not be limited to, the interviews and meetings conducted, sites visited, progress in collecting data, an updated work schedule, any problems encountered or foreseen, and any initial observations.

Task 4: Analysis of Baseline Data

Subtask 4a: Connectivity needs assessment and requirements definition

Based on the baseline information gathered and the findings from the previous tasks, the Contractor shall conduct a connectivity needs assessment and requirements definition, with particular reference to the selected GOCR entities that are part of the Project. It is anticipated that this connectivity needs assessment and requirements definition will include a gap analysis (understood to mean an analysis of the discrepancy between the as-is state of a particular GOCR entity and the future should-be state that will enable the GOCR entity in question to fully accommodate, participate in, and take advantage of the Project's shared backbone connectivity infrastructure). The analysis shall be oriented toward determining what existing

connectivity infrastructure needs to be modified or replaced, as well as what infrastructure needs to be acquired or developed.

Subtask 4b: Data center needs assessment and requirements definition

Based on the baseline information gathered and the findings from the previous tasks, the Contractor shall conduct a data center needs assessment and requirements definition, with particular reference to the selected GOCR entities that are part of the Project. It is anticipated that the data center needs assessment and requirements definition will include a gap analysis (understood to mean an analysis of the discrepancy between the as-is state of a particular GOCR entity and the future should-be state that will enable the GOCR entity in question to fully accommodate, participate in, and take advantage of the Project's shared data center infrastructure). The analysis shall be oriented toward determining what existing ICT-related infrastructure and facilities need to be modified or replaced, as well as what infrastructure needs to be acquired or developed.

Interim Deliverable #2:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 4, covering the connectivity and data center needs assessment and requirements definition as described above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 5: High-Level Design, Architecture, and Functional Specifications

Subtask 5a: High-Level Design, Topology, and Functional Specifications for Shared Backbone Connectivity

The Contractor shall develop a high-level design, architecture, and functional specifications for shared backbone connectivity for the selected GOCR entities, including, to the extent feasible, allowance for expansion and scaling in response to both the evolving ICT requirements of the selected GOCR entities, as well as the future inclusion of other GOCR entities.

When developing a high-level design, architecture, and functional specifications for shared backbone connectivity, the Contractor shall address the following requirements, at a minimum:

- *Backbone*: The Contractor shall design a fully redundant backbone throughout its coverage area, entirely fiber optic infrastructure, multiprotocol label switching ("MPLS") platform, Internet Protocol ("IP")-

based, capable of supporting high-speed voice/data transport and switching, quality of service, and layer-2 and layer-3 virtual private networks ("VPNs").

- *Access Points*: The Contractor shall develop a best-estimate listing of the major cities and towns where access points could be located to provide the maximum feasible number of locations of the selected GOCR entities with adequate access to the backbone, together with pertinent supporting information (such as the lack of Grupo ICE coverage in a given location and possible alternatives). To the extent practicable, the access points may be differentiated in some manner (even at the level of small, medium, and large). Exact siting of the access points is outside the scope of this subtask.
- *Basic Services*: The Contractor shall identify necessary or recommended basic services, which may include, but are not necessarily limited to, all-"VoIP" telephony within the environment of the connected GOCR entities, flexible data service bandwidth and provisioning, Internet access, security/firewalling, and the ability to configure secure VPNs over the Internet.
- *Support Services*: The Contractor shall identify necessary or recommended support services, which may include, but are not necessarily limited to, a centralized network operations center, centralized help desk, and unified billing.
- *Service Levels*: The Contractor shall identify and describe generic service level requirements, which may include, but are not necessarily limited to, availability/reliability/quality/provisioning/fault response targets, service level agreements, and penalties for noncompliance.
- *Equipment*: The Contractor shall develop a list of the types and features of customer premise equipment that will be required, together with general principles applying to the provisioning of such equipment (such as equipment to be furnished as part of the service, under defined payment, depreciation, residual-value, and buyout conditions).

Subtask 5b: High-Level Design, Architecture, and Functional Specifications for Shared Data Center

Understanding that public sector data acquisition, processing, and storage operations need to be hosted in data centers that meet rigorous operational requirements and industry-standard design principles, the most important of which are as follows:

- Stringent construction standards, including earthquake-proofing if the data center is located in a zone of seismic activity;
- Controlled access and physical and software-based security systems (often multi-layered);
- Redundant and uninterruptible electric power supply, with backup generators and battery systems as necessary;
- Temperature and humidity control;
- Robust and redundant internal and external connectivity arrangement;

- Suitable equipment housing facilities and cabling arrangements;
- The necessary computing environment (such as high-performance servers, storage devices, and backup facilities);
- Ability to guarantee specified performance and service targets;
- Ability to accommodate future expansion and growth; and
- Adequate management, supervisory, and operational personnel.

Taking into account the above requirements, the Contractor shall:

- Develop high-level specifications regarding the architecture and design of the shared data center;
- Identify necessary or recommended support services, which may include, but are not necessarily limited to, a centralized network operations center, centralized help desk, and unified billing;
- Identify and describe generic service level requirements, which may include, but are not necessarily limited to, availability/reliability/quality/provisioning/fault response targets, service level agreements, and penalties for noncompliance; and
- Develop general estimates of foreseeable equipment needs and required capacity.

Interim Deliverable #3:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 5, covering the high-level design, architecture, and functional specifications for both the shared backbone connectivity and the shared data center components of the Project as described above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 6: Legal and Regulatory Review

The Contractor shall conduct a legal and regulatory review for the purpose of anticipating any potential impediments to Project implementation. The legal and regulatory review is expected to focus on the following:

- The Grantee's charter, applicable regulations, and relationship to Grupo ICE;
- Grupo ICE's legal position for implementing e-government projects (as stipulated by Law 8860) and its potential implications for the Project (for example, cases where Grupo ICE is unable to provide connectivity but an alternate source is available);
- Procurement rules and regulations applicable to the public sector, and implications for the structuring of Project-related procurements (refer to Task 8 for additional guidance); and

- Laws and regulations that may impact the business models of the shared data center (refer to Task 8 for additional guidance).

Interim Deliverable #4:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 6.

Task 7: Economic and Financial Analysis

The Contractor shall prepare an economic and financial analysis of the Project. The principal objectives of the economic and financial analysis are as follows:

- To establish, based on the available data and reasonable inferences therefrom, the current levels of ICT-related expenditure of the selected GOCR entities, with particular reference to spending levels for connectivity and data center operations (including staffing and support-related costs);
- To estimate, for planning and budgetary purposes, the cost of Project implementation and ongoing operation of the Project's shared backbone connectivity infrastructure and shared data center operations;
- To estimate, for planning and budgetary purposes, the anticipated cost savings that will accrue to the selected GOCR entities over a medium- to long-term time horizon (such as 5 to 7 years); and
- To develop order-of-magnitude trending estimates, with reference to anticipated future expansion of the Project and to likely future decreases in the cost of bandwidth and services.

The Contractor shall identify a range of possible financing options, which may include, but are not necessarily limited to, the following (or a combination of the following):

- Self-financing by the GOCR;
- Assistance from the World Bank, Inter-American Development Bank ("IDB"), or other multilateral/international/regional financial institutions; and
- Vendor/implementer financing (supported by, for example, export credits from agencies such as the Export-Import Bank of the United States).

Since the financial analysis is not anticipated to cover the financial resources or means of Grupo ICE, the principal focus of the financial analysis is the shared data center component of the Project. The financial analysis shall be carried out in coordination with Subtask 8a below.

Interim Deliverable #5:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 7, covering the economic and financial analysis as described

above. The Contractor shall submit five (5) copies of a draft version of this interim report to the Grantee for review. If the Grantee may proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 8: Project Preparation and Structuring

Subtask 8a: Business models for the shared data center

The Contractor shall conduct a high-level review and analysis of business models applicable to the implementation and ongoing operation of the shared data center. Such business models may include, but are not necessarily limited to, Build-Own-Operate, Build-Own-Operate-Transfer, Build-Operate-Transfer, and some type of public-private partnership. The Contractor shall recommend a preferred business model, together with supporting rationale, listing of alternatives, and discussion of the benefits and risks of each alternative. The Contractor shall take into account any findings from the financial analysis undertaken in Task 7.

Subtask 8b: Structuring of procurement

Based on the findings from Task 6, the Contractor shall advise the Grantee on procurement options and alternatives applicable to both the shared backbone connectivity and the shared data center components of the Project. Depending on the Task 6 findings, these may involve, but are not necessarily limited to:

- Single procurement versus multiple procurements;
- Single-stage procurement(s);
- Two-stage procurement(s) with prequalification;
- Non-binding request(s) for information followed by request(s) for proposals;
- Turnkey implementation(s) versus other type of implementation(s); and
- Ancillary activities (such as advertisement/notification procedures and bidders conferences).

Subtask 8c: Prospective U.S. sources of supply

The Contractor shall identify prospective U.S. suppliers of equipment, systems, and solutions for the Project in accordance with Clause I of Annex II of the Grant Agreement. These may include, but are not necessarily limited to, the following:

- Backbone networking hardware and software (such as multiplexers, cross-connects, routers, switches, and access devices);
- Data center equipment and systems; and
- Data center implementation, provisioning, and support services.

Interim Deliverable #6:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 8. The Contractor shall submit five (5) copies of a draft

version of this interim report to the Grantee for review. If the Grantee proposes any modifications to the draft interim report for incorporation into the final interim report, the Contractor shall prepare and submit to the Grantee five (5) copies of the final interim report that incorporate the proposed modifications.

Task 9: Environmental Impact Assessment

The Contractor shall conduct a preliminary review of the Project's environmental impact with reference to local requirements and those of multilateral development banks (such as the World Bank and IDB). This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment in anticipation of the Project moving forward to the implementation stage. In particular, the Contractor shall identify any steps that the Grantee or other interested parties will need to undertake subsequent to the completion of the TA and prior to Project implementation.

Task 10: Developmental Impact Assessment

For the benefit of those interested in the Project, the Contractor shall assess the development benefits associated with the Project and the methodology for measuring those benefits. The assessment shall include examples of the development benefits that would be expected in the Host Country if the Project is implemented as outlined in the TA. The Contractor shall focus on examples from the categories listed below and shall develop a methodology for assessing these impacts over time. The Contractor shall only list benefits in the categories that are applicable to the Project. The categories to be considered are as follows:

- *Infrastructure*: How the TA will result in improvements to or increased investment in infrastructure (both direct and indirect).
- *Human Capacity Building*: Skills development or additional employment that will be generated within the Grantee or within the selected GOCR entities.
- *Technology Transfer and Productivity Improvement*: Identification of new recommended technologies deployed in conjunction with the Project, and specific technology or knowledge transfer that will take place.
- *Market-Oriented Reform*: Identification of any market-oriented reforms that will be achieved as a result of the TA, which could include improved competition, better market entry to new investment, or more equitable consumer pricing policies.
- *Other*: Any other developmental benefits of the Project, including any spin-off or demonstration effects.

Interim Deliverable #7:
The Contractor shall prepare and submit an interim report to the Grantee detailing the findings from Task 9 and Task 10.

Task 11: Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be prepared in English and Spanish.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

(4) The Grantee shall be responsible for all procurement-related final decisions.

ANNEX 6

COMPANY INFORMATION

A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections E and F below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Technical Assistance.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Technical Assistance as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Technical Assistance. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____.

2. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of

offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee. USTDA retains the right to request an updated certificate of good standing from the selected Offeror.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

E. Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

F. Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the subcontractor must provide an explanation.

1. Subcontractor is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Technical Assistance and to perform the Technical Assistance. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period

preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____